

The United States MILLER

AND THE MILLING ENGINEER.

Fourteenth Year.—No. 4.

MILWAUKEE, APRIL, 1889.

Subscription Price, \$1.00 Per Year.

THE SAN DIEGO CAL., FLUME.

A GREAT ENGINEERING FEAT.

The great flume for supplying the city of San Diego, California, with water and for irrigating a large tract of land, otherwise worthless, has been completed. One can scarcely conceive the engineering skill required or the magnitude of the work without a personal inspection of the country traversed.

Mr. O. H. McConoughy, of *The Golden Era*, published in San Diego, in an article concerning this enterprise, says:

"The even grade of four and three-fourths feet fall to the mile is steadily maintained over three hundred and fifteen trestles and through the numerous tunnels and numberless cuts, from the diverting dam in the mountains, forty-five miles away, to the reservoir on mesa. Nowhere has any filling been allowed, leaving no chance for accidents such as washouts or slides. The native rock or firm bed of earth alone is used to rest the well-made trough of everlasting redwood. Where native rock or earth bed is not at the proper height a strongly made trestle, resting on them, supports the flume, which is strong enough for locomotive and train to pass over in safety.

The mountain sides below this circling artificial stream are strewn with great and small fragments of the solid rock, showing the effective use of giant powder, while on the upper side every rock and stone which might become displaced and damage the flume in its descent has been carefully removed. The great pains taken may, perhaps, be understood when the perfectly made surface ditch is noticed on each side of the flume in its entire length, diverting the surface water and rainfall, and maintaining the stability of the flume, and the purity of its contents.

The great and never-failing supply of the very best of water back in those mountain fastnesses, and the vastness of the undertaking, can be better understood in figures than in words. The water shed at present concentrated is 150 square miles. The rainfall averages forty inches a year in this mountainous section, and water enough is now waiting to last San Francisco three years. There have been employed constantly for nearly two years a small army of men. At times, when they could work to advantage, as many as four hundred men have been employed. The commissary department kept many a sutler busy furnishing food.

Over one hundred wagons were necessary, and eight hundred horses and mules, to transport the lumber, nearly nine million feet of which was used. This was hauled by teams in caravans—five or six teams going together, each team with six, eight or ten horses and two or three wagons—so that a caravan was quite a lengthy affair. In many instances roads had to be constructed up the impassable mountain slopes, involving much time and labor, and frequently cost thousands of dollars. One road alone cost seven thousand dollars, and had to be built before the material for the flume could reach the necessary place.

The very head of the flume is the Cuyamaca dam, seven hundred and twenty feet long and thirty-five feet high, covering 900 acres with its crystal flood. From this the water flows down a natural flume, channeled in rock, about twelve miles to the diverting dam. This dam, four hundred feet long, thirty-five feet high and built of solid masonry, cost thirty-six thousand dollars, and holds in check another

beautiful lake—a source of perpetual delight to all manner of water fowl, as well as to the hunter who has strayed that far. From the diverting dam the flume proper begins. This is thirty-five and three-quarters miles long, reaching the reservoir eight miles from the city, at an elevation of six hundred and thirty feet. From the reservoir it is piped to the city limits, where it is to be connected with the city water mains. The trestles and tunnels necessary in the construction of the flume are too numerous to mention, but we give a few to show the magnitude of the enterprise:

heim, 1,900 feet in length; Los Coches, 313 feet; El Monte, 290 feet; Cape Horn, 700 feet; South Fork, 200 feet; Anderton, 270 feet; and Sand creek, 480 feet. These are through solid rock of granite or slate, six feet square, cemented and arched overhead, supports being placed wherever the rock is soft or has any indications of falling."

Mr. T. S. Van Dyke was the first to conceive the idea of bringing water from Cuyamaca to supply San Diego. Later on he unfolded his plans to Mr. W. E. Robinson, and these two gentlemen, after overcoming most discouraging obstacles, finally succeeded in

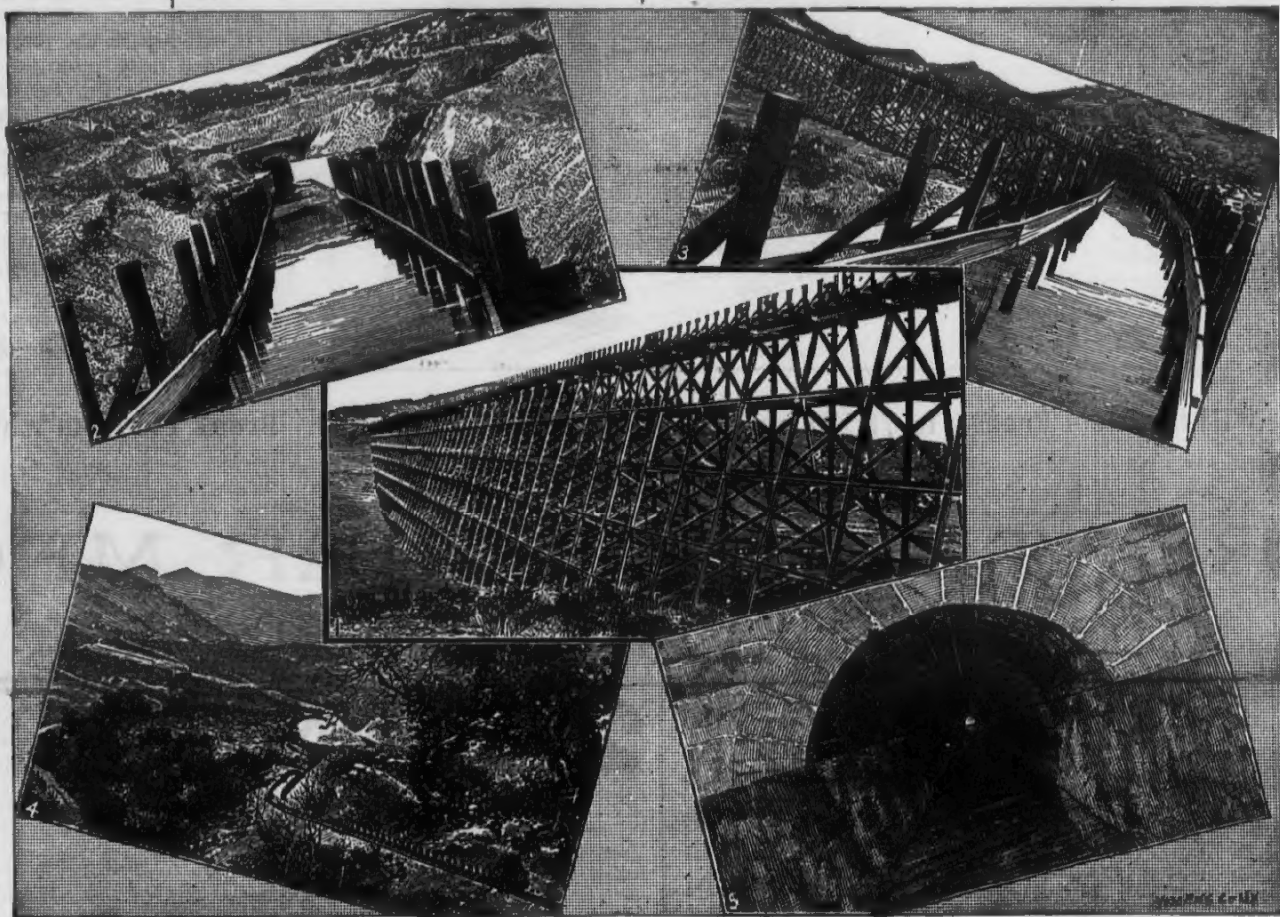
ing dam of solid masonry, through gates in which, the water passes into the flume.

The flume is six feet wide and four feet high, built of clear dressed redwood plank two inches thick, resting on heavy mud sills, stringers and cross ties, the whole on a foundation of rock or earth in its natural position. It is believed to be the most solidly and thoroughly built structure of its kind in the United States, and that it will continue to be as it is now practically free from leakage. At present but one tier of side planks have been laid, making the height sixteen inches. The remainder can be easily

laid as soon as needed. Its full capacity is 5,000 inches daily, equal 65,000,000 gallons, which is sufficient to irrigate 100,000 acres. Its length is nearly thirty-six miles, following the course of the San Diego river to the Cajon valley, at a height sufficient to irrigate the best lands in that valley, and thence to the edge of the mesa or table land adjoining the city, terminating at a point 680 feet above the sea, and eight miles distant from the city limits, to which a pipe line or flume and pipe line connects it with the main of the San Diego and Colorado Water Company.

In addition to the above work already done, other reservoirs will be constructed as soon as needed, upon sites already secured for the storage of the water rain supply. One of these near the "La Mesa tract," owned by the company, will contain 700,000,000 gallons, and another above the diverting dam 1,250,000,000 gallons."

You may hve the stars in a nail keg, hang the ocean on a rail fence to dry, put the sky to soak in a gourd and unbuckle the bellyband of eternity and let the sun and moon out, but don't think you can escape the place that lies on the other side purgatory if you don't pay for your paper.—*Georgia Enterprise*.



1—Sweetwater Trestle, 82 feet high, 1,222 feet long.

4—On San Diego River below Diverting Dam.

2—Entrance to Lankersheim Tunnel, 220 feet long.

5—Sand Creek Tunnel, 296 feet long.

3—Flume and Trestle.

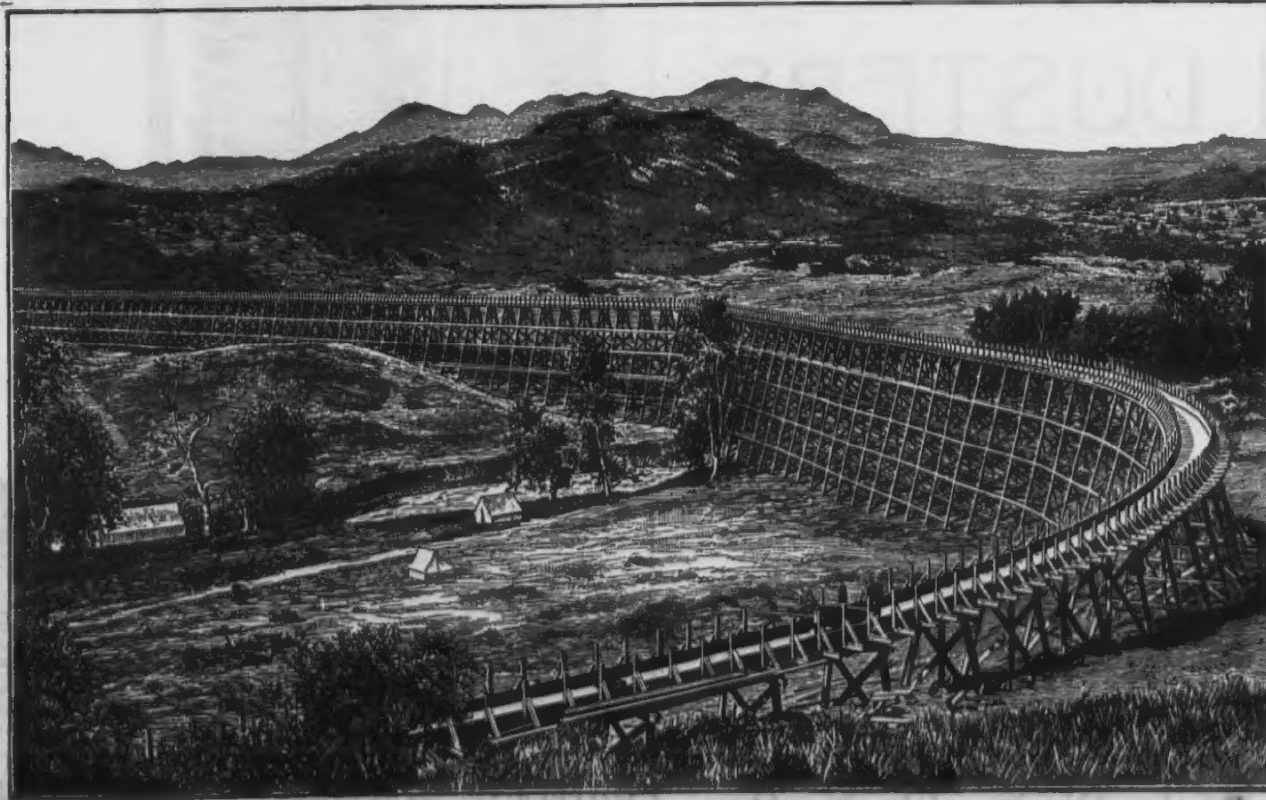
From Photographs.

Some of the longest trestles are: The Sweetwater pass, 1,264 feet long and 81 feet high; Sweetwater pass No. 2, 720 feet long and 25 feet high; Sycamore creek, 730 feet long and 35 feet high; Connor creek, 688 feet long and 34 feet high; Knob creek, 600 feet long and 55 feet high; Cut-off, 640 feet long and 48 feet high; Los Coches, 1,664 feet long and 70 feet high; Sand creek, 600 feet long and 58 feet high; South Fork, 420 feet long and 86 feet high; Quail canyon, 590 feet long and 68 feet high; Monte tunnel, 488 feet long and 60 feet high; Chocolate, 450 feet long and 63 feet high, and over three hundred smaller ones.

The most important tunnels are: Lankers-

enlisting capital to take hold of the scheme, and The San Diego Flume Company was organized in May, 1886, to bring water from the high mountains east of San Diego to supply the urgent need of the city for pure water in abundant quantities under pressure, and also to irrigate the rich valley and table lands around it. "To accomplish this," says the writer above quoted, "the company have constructed a reservoir in the Cuyamaca mountains nearly 5,000 feet above the sea, with a dam 35 feet high and 720 feet long, its capacity being 8,789,119.324 gallons—from whence the water as needed is taken down a rocky canyon to the San Diego river. Just below this point of junction is built a divert-

A GRAIN-BIN PROBLEM.—St. Paul grain men have been vexing their souls over a problem touching a grain-bin and contents. It is this: Given a bin, dump into it, separately, five distinct qualities of wheat; open the spout at the bottom, and the query is, which layer of wheat comes out first? The uninitiated say at once, with a few exceptions, "The first layer at the bottom, of course!" W. A. Van Styke was determined to get at the facts and watched the bin with his eagle eye very closely the other day, after having caused a layer of barley to be placed on top of several layers of different kinds of wheat. The spout was opened and the barley came rushing out first.—*St. Paul Pioneer Press*.



LOS COCHES TREESTLE, 85 FEET HIGH, 1,774 FEET LONG. FROM A PHOTOGRAPH.

The first engine in the country was of the Newcomen type, and was built by Joseph Brown, of Providence, R. I. It was in operation, pumping water from a Rhode Island mine, in 1787. The cylinder was made of plate iron and was 24 feet in diameter, and the valve between the cylinder and boiler was two feet in diameter. The engine raised seven hogsheads of water per minute, and the "flue" consumed two cords of wood in twenty-four hours.

PACIFIC coast exchanges report considerable shipments of flour to trans-Pacific ports.

SINCE 1878 Baltimore has outranked Philadelphia in the value of its export trade, although previous to that year almost the exact opposite was the case. In 1888, 6.3 per cent. of total exports from this country were shipped from Philadelphia, while 10.4 per cent. was shipped from Baltimore. In 1878 the percentages were: Philadelphia 9.4 and Baltimore 9.6 per cent. The unfavorable showing made by Philadelphia is due almost wholly to the reduced exports of wheat and corn from that port.

The Greatest Success of the Day!

THE NEW ERA SCALPER

Read the following Testimonials and then write us for particulars:

TESTIMONIAL.

CARLINVILLE, ILL., Feb. 16, 1889.

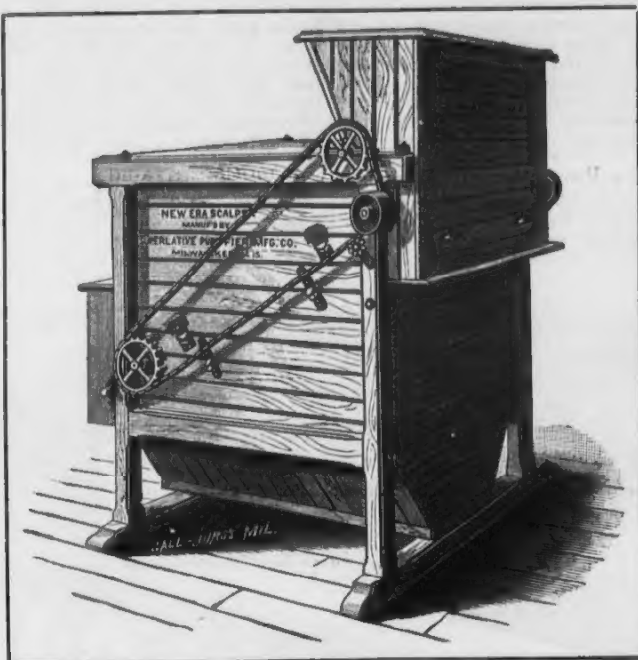
Superlative Purifier Co., Milwaukee:

DEAR SIR: It affords us great pleasure to say that the New Era Scalpers are giving the very best of satisfaction, and the longer we use them the better we are pleased. Our patent as well as the grade below the patent have been improved considerably with no other change in the mill than scalping with your machines. They require nominal power, and, in a word, are a big success.

Yours truly,

HENRY C. YAEGER.

Pres't Yaeger Flour Mill Co.



TESTIMONIAL.

YOUNGSTOWN, O., Dec. 7, 1888.

DEAR SIR: In order to put in your scalpers on our 2d, 3d, 4th and 5th breaks and retain our hexagon scalpers for wheat cleaners, I was obliged to add another story to our roller room, at an expense of five times as much as the cost of the machines. Having now run the machines for thirty days, I feel satisfied with the expenditure made, as I think we are now making the nicest flour we ever made. Our 2d, 3d, 4th and 5th break flour (we make eight breaks) is as white and clean as our patent, while our flour all through is the best we ever made. Our hexagon scalpers make excellent wheat cleaners, and your machined make excellent scalpers. The two combines make excellent flour.

Respectfully yours,

HOMER BALDWIN.

One Machine will handle 4 Breaks in 75 bbl. mill, or 1 Break in 500 bbl. mill. Break Flour as white as any.

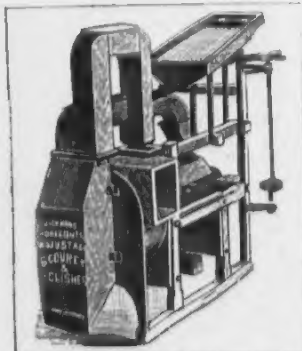
FOR PRICES, ETC., ADDRESS

SUPERLATIVE PURIFIER MFG. CO.
MILWAUKEE, WISCONSIN.

[Mention this paper]

WORKS TO A CHARM! 2-THE BEST IN THE LAND-2

THE RICHMOND Grain Cleaning Machinery AND BRAN DUSTERS



Adjustable Scourer and Polisher, with shoe.

BUTLER, Ky., March 5, 1889.

RICHMOND MFG. CO.,

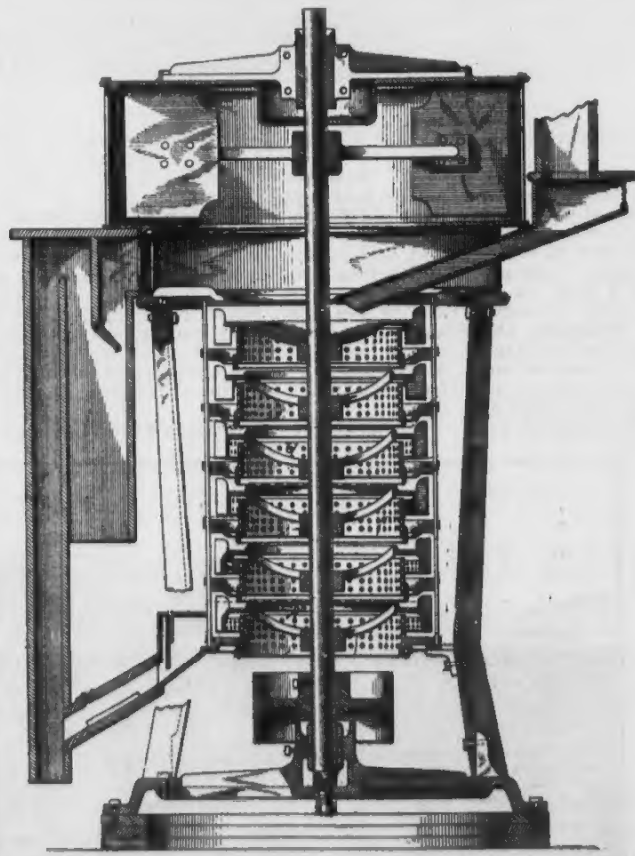
Lockport, N. Y.:

Gentlemen—We have put the new machine—Horizontal Adjustable Scourer and Polisher—up and it works to a charm. We are pleased with it. We enclose our check in payment of same.

Respectfully,

C. C. HAGEMEYER & CO.

C. C. HAGEMEYER, Pres't.



"THE IRON PRINCE" SMUTTER.

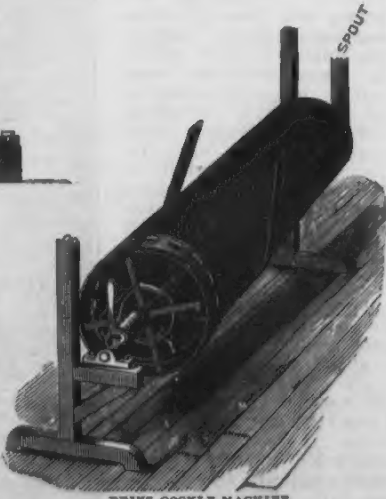
Office of the GEM MILLING COMPANY,
MILWAUKEE, April 24th, 1888.

PRINZ & RAU MFG. CO.:

GENTLEMEN—We find that sufficient time has elapsed since we first commenced to use your improved smutter to authorize us in passing final judgment. It has now been in constant use since June 15th, 1888, and has given perfect satisfaction. It has taken the place and the work of three first-class machines and does the work more satisfactorily, removing the beards in a more thorough manner than the three machines combined formerly did. We also save power, being well satisfied that we are using no more power with your machine than we used formerly on one of the three machines taken out. As to durability of your machine we can say that we see no reason why it should not stand as much or more wear than any machine known to us.

Yours truly,

F. H. MADGEBURG, Pres't.



PRINZ COCKLE MACHINE.

OFFICE OF
VICTOR ROLLER MILLS

Lime Spring, Ia. }
Nov. 12, 1888. }

Prinz & Rau Mfg. Co.,
Milwaukee, Wis.:

Gentlemen—Enclosed find draft to balance our account for Cockle Machine purchased of you. Our head miller is delighted with the machine; it is the best he ever saw work and it takes but little power to run it.

Respectfully,

REED & HEATH.

No. 2 Machine.

Richmond Manufacturing Co.,
LOCKPORT, N.Y., U. S. A.

PRINZ & RAU MFG. CO., MILWAUKEE, WIS.

UNITED STATES MILLER.

AND THE MILLING ENGINEER.

E. HARRISON CAWKER, EDITOR.

PUBLISHED MONTHLY.

OFFICE, NO. 124 GRAND AVENUE, MILWAUKEE.

SUBSCRIPTION PRICE—PER YEAR, IN ADVANCE.

To American subscribers, postage prepaid..... \$1.00
To Canadian subscribers, postage prepaid..... 1.00
Foreign subscriptions..... 1.25All Drafts and Post-Office Money Orders must be made payable to E. Harrison Cawker.
Mills for advertising will be sent monthly, unless otherwise agreed upon.

For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as mail matter of the second-class.]

MILWAUKEE, APRIL, 1889.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

MILWAUKEE AMUSEMENTS.

ACADEMY OF MUSIC—First-class theatrical entertainments every evening. Matinees Wednesdays, Saturdays and Sundays, at 3 p. m.

STANDARD THEATER (South-side)—Every evening; matinees Saturdays and Sundays, at 2 p. m.

GRAND AVENUE THEATER AND MUSEUM—Open daily from 10 a. m. to 10 p. m.

STADT THEATER (German)—Wednesday and Sunday evenings.

PEOPLE'S THEATER—Choice variety performances every evening; matinees Tuesdays, Fridays and Sundays, at 2:30 p. m.

PUBLIC MUSEUM, Exposition Building—Open daily; admission free.

LAYTON ART GALLERY—Open daily. Free admission Tuesday, Thursday and Saturday.

AN IMPORTANT ANNOUNCEMENT.

MILWAUKEE, Wis., April 24, 1889.

To the Milling Public:

We have this day disposed of our entire interest in the publication of THE MILLING ENGINEER to Mr. E. Harrison Cawker, publisher of THE UNITED STATES MILLER of this city, who will fulfill all of our unexpired contracts and subscriptions. In transferring this property with our good will to Mr. Cawker, we feel that we have placed it in capable hands, and that the interests of patrons of the paper will be carefully and conscientiously guarded. We bespeak for him the same generous measure of support which has been accorded to us in the past.

Respectfully,
EDW. P. ALLIS & CO.

* * * *

We simply desire to say in connection with the above letter that we shall endeavor to merit not only the kind words above written, but the good will of all who may in any manner favor us with patronage.

MR. ALBERT HOPPIN has resigned his position with Messrs. Edw. P. Allis & Co., and has purchased a large interest in The Stationary Engineer and The Master Steam Fitter at Chicago, and has removed to that city. Mr. Hopkin has had long experience as a milling journalist as former proprietor of The Northwestern Miller and later as editor of The Milling Engineer, published by Messrs. Edw. P. Allis & Co., and we are gratified to inform our readers that he will, during the year, contribute some valuable articles to this paper. In his new relations Mr. Hopkin is "right in his element," and no doubt there will be a marked improvement soon developed in the valuable journals he has purchased.

A LETTER from Mr. John W. Rodgers, Secretary Board of Trade, Oakley, Kan., says that there is a first-class opening for a good roller flour mill at that place of about 125 barrels daily capacity. The citizens are willing to give a good bonus to a suitable party. Address correspondence as above.

THE Millers' National Association will meet in Milwaukee, June 11, 12 and 13, 1889. There will doubtless be a large attendance of millers and others connected with the trade. The date set will find Milwaukee arrayed in all its summer beauty, and our visitors on that occasion will never regret the time or money spent

to make the visit. It is quite probable that car-load delegations will come from various States. We shall endeavor to give full particulars in our May number.

CACOPHONICAL cacectical wegotism, complicated with hebeticulous micro-mental rhombo-cephalicity, continues to characterize the auto-inflatorial pseudo-philosophical milling-editorial gabble that gushes from the spouting Minneapolis artesian bore.—*Milling World*.

An "artesian bore" is good. An open sewer, however, is an abomination, and though but few may suffer from its nauseous exhalations, it is a pity it cannot be stopped.

THE Congress of Chili has made an appropriation for a competitive exhibition of flour mill machinery which is to be opened at Santiago, Chili, next November, under the auspices of the Chilean Society for the Promotion of Manufactures. The prize of 20,000f. (\$4,000) will be awarded the successful competitor, whatever his country, by a jury of experts. Full particulars can be obtained by addressing Secretary Chilean Legation, Washington, D. C.

IMPORTANT TO FLOUR EXPORTERS.

The following communication, which is of importance to flour exporters, has just been received and handed to us for publication:

LONDON FLOUR TRADE ASSOCIATION,
30 Corn Exchange Chambers,
LONDON, March 28, 1889.

Mr. S. H. Seamans, Secretary Millers' National Association, Milwaukee:

DEAR SIR:—I am desired by the Executive Committee of the above association to bring to your notice the following fact:

"The dock companies have notified the trade that the new London clause of \$ per ton does not include fire insurance during the time the flour is upon the quay waiting delivery into lighters."

The holders of bills of lading are therefore exposed to this risk, and it is very difficult, if not impossible, to estimate accurately what amount to insure against fire, as it often happens that goods arrive and are upon the quay before receivers can identify them as appertaining to their bill of lading. The risk is of very short duration, and it would greatly facilitate business if it were included in the ocean policy, which could be done by adding the words, "including all risk on goods put on the quay under the London clause." We strongly recommend all millers and shippers to endeavor to have this inserted in future.

I remain, yours truly,

[Signed] JOHN KINGSFORD, Hon. Sec'y.

THE LATE EDWARD P. ALLIS.

During the evening of April 1, 1889, after a very brief illness, EDWARD P. ALLIS died at his home in this city of neuralgia of the stomach. His deathbed was surrounded by most of the members of his large family.

The announcement of his death, so sad, so unexpected and so sudden, struck a chill to the hearts not only of his kin and his large circle of private and personal friends but to an army of employees, many of whom had been in his service in various departments of the RELIANCE WORKS for years, and who had learned to regard him not simply as their employer but as a personal friend—one who was not so entirely wrapped up in his own affairs that he could take a genuine interest in their welfare. On the day of the burial the great Works stood empty and the host of operatives filed with measured tread through the streets to look for the last time on the face of their great chief—an industrial commander whose words were reason and whose ways were peace; whose inspiration was the faith that "no king upon his throne is so honored today as the Ericssons and Edisons at their work benches."

Edward P. Allis was born at Cazenovia, N. Y., May 12, 1824. Graduating from Union College, Schenectady, in 1845, his education was directed with a view to the practice of law. His tastes favored an active business life, and in 1846 he

located in Milwaukee where in connection with William Allen he opened a leather store. The firm of Allis & Allen continued till 1854, during which time it built a large tannery at Two Rivers, Wisconsin. In 1854 Mr. Allis sold out his interest in the firm and connection with John P. McGregor engaged in the real estate and brokerage business. In 1861 he came into possession of the Reliance Works, and from that time forward his business history is written in the history of the works.

The picture of Mr. Allis, presented herewith is a good likeness.

In personal appearance he was of average height, slight, compactly, strongly built and capable of great endurance, quick in his motions, a rapid walker and his every action impressed one with the fact that he was firm of purpose and tireless in the pursuit of his business interests. He was quick to decide, relied upon his own judgment with confidence, had executive ability of a high order, attended strictly to his

business and expected every one in his employ to do the same. He was quiet in manner, simple in his tastes and inclined to be reticent. He was a fine scholar, a great reader, and always kept fully posted in all scientific, mechanical and political matters.

Mr. Allis was neither inventor, engineer or mechanic but a thorough business man, wonderfully endowed with the peculiar faculty of assimilating and directing the talents of each, so that they might come to full fruition, as they did it building up the RELIANCE WORKS, whose products not only brought a competence to their owner, but served the best interests of mankind in most of the civilized countries of the world.

Nearly thirty years of his life were devoted to the building up of this great industrial enterprise from a little pioneer shop, beset with all the vicissitudes incident to a new country, to an establishment capable of turning out over three million dollars worth of manufactured products per annum and employing about fifteen hundred men. His will shows that it was his great heartfelt desire that this establishment might be perpetuated so as to be a constant, lasting, living blessing to Milwaukee for all time.

No employer ever had the welfare of his men more constantly in mind. He was at all times approachable and ready to listen to the claims of right, justice or ambition. On the other hand, no employer ever held the warm admiration and warm support of his workmen in a greater measure than did he, for he fully merited it. The employees of this noble man feel more keenly the loss of a friend by his death than that of an employer. Their feelings are aptly expressed in a series of resolutions adopted on the third of April, which we produce herewith.

At a joint meeting of the employees of the Reliance Works and members of the Allis Mutual Aid Society, held Wednesday, April 3d, the following resolutions were presented and adopted:

WHEREAS, Death has taken from us our much loved and respected employer, to whom we have been in the years that have passed so deeply indebted, not only for the work he has done in our behalf, but much more than this for the kindly personal interest he has always taken in all that has concerned our well-being and prosperity, and

WHEREAS, As his employees bound to him by so many ties of mutual sympathy and common interest in the building up of the great business, which has been his life work and which remains his most fitting monument, we are desirous of paying our tribute to his memory, therefore be it

Resolved, That by the death of Edward P. Allis, we have lost not only a kind, conscientious and liberal employer, but also a personal friend, endeared to us by his winning manners and by so many instances of thoughtful kindness and disinterested generosity; ever ready to meet with us on the broad plane of a common manhood.

Resolved, That we have ever found him in his dealings with us to have been honorable and upright, sympathizing with us in our desires and ambitions for advancement, and always willing to consider our interest in preference to his own, holding both subject to the welfare of the shops, which have been our common pride.

Resolved, That such of our number as are members of the Allis Mutual Aid Society cannot express too strongly our appreciation of the spirit of humanity which prompted him to found it and to contribute so generously to its support.

Resolved, That we extend to his sorrowing family our most heartfelt sympathy in this the hour of their bereavement, and that we pledge to them the same loyal service it would have been our greatest pleasure to render to him had he been spared to continue his work with us.

Resolved, That a copy of these resolutions be suitably engrossed and presented to his family.

In political faith Mr. Allis was a Republican and in full sympathy with the party, except on the currency question. In this he believed in the Greenback policy,

and in 1877 headed the ticket of the Greenback party of Wisconsin as their candidate for governor. In the national campaign of 1888, being a strong believer in the policy of protection to American industries, he took an active interest in the cause and contributed much by his personal interest and efforts toward the victory of the Republican party.

Mr. Allis has always occupied a prominent position in the social and business circles of Milwaukee and his loss is keenly felt by the city. As years go, he was not an old man, not having quite reached his sixty-fifth birthday. The world is the better for his having lived. It will miss him sorely now that he is gone.

"He who here
Hath run his bright career,
And served men nobly, and acceptance found
And borne to light and right his witness high,
What can he better crave than to die,
And wait the issue sleeping under ground."
—Matthew Arnold.

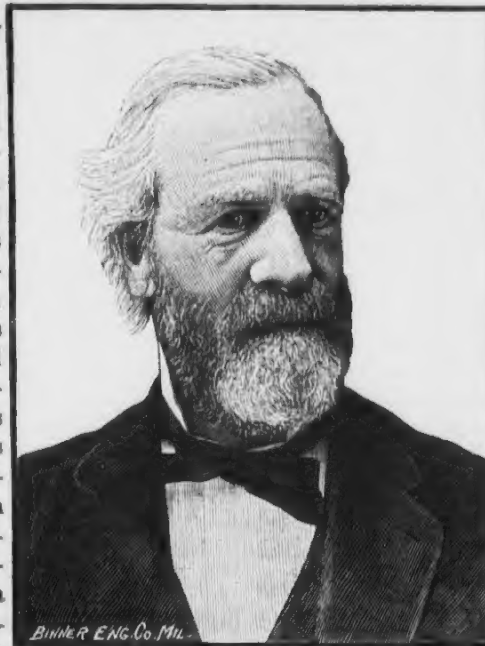
THINGS WORTH KNOWING.

TO HARDEN COPPER.—Copper may be hardened by melting with it and thoroughly stirring into it 1 to 6 per cent. of manganese oxide. The other ingredients for bronze may then be added.

TO DETECT STEEL FROM IRON.—The slightest vein of iron or steel can readily be detected by the application of aquafortis to the surface. On steel it leaves a black mark; on iron the metal remains clean.

TO DETECT PARAFFINE IN MINERAL OILS.—A simple method of estimating the presence of paraffine in mineral oils and residues has been suggested by a German chemist. The advantage which it possesses over any previously known process is greater speed and simplicity, combined with accuracy. From five to twenty parts of the oil to be tested are shaken with from 100 to 200 parts of glacial acetic acid, and the paraffine which is precipitated by this reaction is collected on a filter. The filter is successively washed with acetic acid and alcohol, and is afterwards dried and weighed. By an alternative method the paraffine is dissolved from the filter by means of ether or benzine, and is weighed alone.

THE C. I. St. L. & C. Ry. (Kankakee Line) is the best line to Cincinnati, Richmond, Va., Newport News, Washington, Baltimore, Chattanooga, Atlanta, Savannah, Charleston, Jacksonville, St. Augustine, Thomasville, Pensacola, Mobile, New Orleans, and all points in the South and South-east.



BINKER ENG. CO. MIL.

THE KIND OF MILLS WE BUILD

The Model Mills of the country, built on "THE ALLIS SYSTEM," give such complete satisfaction, not only from the start, but for years afterward, that millers, when contemplating improvements or the construction of new plants, prefer to place their orders where long experience and unbroken record of success, coupled with the highest guarantees, insure most perfect results.

During the past few weeks contracts have been awarded to us for the following new roller mill plants:

A 1500 to 2000 barrel mill for	The Imperial Mill Co.,	Duluth, Minn.
" 300	" Columbia Mill Co.,	Columbia, Tenn.
" 300	" Lincoln Roller Mill Co.,	Lincoln, Ill.
" 200	" Pahl & Thomsen,	Spokane Falls, W. T.
" 150	" Rockwall Mill Co.,	Rockwall, Tex.
" 150	" Humphrey & Bird,	Hastings, Neb.
" 100	" C. H. Guenther & Sons,	San Antonio, Tex.
" 75	" C. Arndt & Son,	Sheboygan, Wis.
" 75	" Godfrey & Durst,	Danbury, Ia.
" 75	" Klingholz Bros.,	Manitowoc, Wis.
" 75	" Hacker & Warnke,	Manitowoc, Wis.
" 75	" F. C. Maertz,	Reedsville, Wis.
" 60	" Louis Nyquist & Co.,	Kirkhoven, Minn.
" 50	" Davis & France,	Medford, Oregon.
" 50	" Richey & Bond,	Hay Springs, Neb.
" 50	" Neely & McCord,	Pulaski, Tenn.
" 800	" (Corn Meal) Cannon & Yates,	Memphis, Tenn.
" 5000 bushel corn meal plant for	Baumgartl & Sheridan,	Chicago, Ill.
" 5000	" Geo. W. Kidd,	La Salle, Ill.

All of the above mills will contain a complete outfit of Gray Roller Mills and other Special Machinery with Reliance Purifiers.

EDW. P. ALLIS & CO.,
RELIANCE WORKS, = = MILWAUKEE, WIS.



NEW HARMONY, Ind., Feb. 13, 1889.

THE KNICKERBOCKER CO.:

GENTLEMEN—We are well pleased with the NEW ROUND REEL. It is simple, durable, effective. It is mild in action, capable of doing a large amount of work, and making close, dry separations. It is quiet, clean and easy running. We take pleasure in endorsing it as a standard machine, worthy of high commendation.

Yours Truly,

[Signed],

CORBIN MILLING CO.

Cheap,
 Durable and
 Effective.



THE MORSE BREAK SCALPER



WE caution all parties against purchasing or using dust collectors which infringe our patents, and hereby give notice that we shall take proper legal steps to enforce our rights against all persons who infringe them, whether manufacturers or users.

No machine can be made after the pattern of the CYCLONE that does not infringe our rights.

The Knickerbocker Co.,
JACKSON, MICH.

OUR LONDON LETTER.

Crop and Trade Prospects—Bakers' Views—The Merchandise Marks Act and its enforcement—Beneficial to United States Millers—The New Purifier—Threatened Patent Litigation—The British Miller—The Paris Exposition, etc.

LONDON, April 9, '89.

The month of March has been very seasonable and has well sustained its reputation for boisterous winds, furious storms and more than the peck of dust which is said to be worth a "king's ransom." The season is altogether very fine for the early growth of grass and the furtherance of vegetation generally. For the past three weeks there has been a gentle rise in the average of English wheat—30s 1d to 30s 2d, and now 30s 5d. On the other hand, foreign wheat has gone the other way, downwards. If, however, the movement of the English average is to be taken as a guide, import wheat will soon show a tendency to follow. In the market generally there has been more confidence shown during the past few days, the holders thinking that prices are not at a minimum point and any changes can only be towards better rates. From various places abroad we hear that the ice is in motion and at the points the corn that is ready to be shipped is being rapidly transferred from quay to vessel. Russia is the only country that can ship grain freely at the present moment and will therefore be the only country that can have influence on our markets for some months to come. India which ruled the price of wheat here a few years ago is commencing its export campaign very leisurely and the exports from that country to England have been somewhat on the decline for the past few years. The following tables have been compiled and show the exports of wheat from the presidency of Bengal during the past three years:

	Cwts. of 112 lbs.	Rupees.
1885-86.....	4,189,531	1,52,98,583
1886-87.....	7,035,276	2,62,81,336
1887-88.....	4,322,899	1,67,90,729

It will be seen that during the year 1887-88 the decline in quantity was 38.4 per cent. This was ascribed to short outturn, owing to blight and insufficient rain. The collector of customs observed in a recent report under this head: "The wheat crop of Russia was a very full one, so that the short yield in India had no effect on prices. I had to report for 1884-85 the average price of wheat at 35s 8d per qr., a price which had not been touched since 1780, but the average price for the past year was 32s 7d per quarter." From letters received by the last mail we learn that the prospects of exporting any quantity of the next crop are very small, for according to the report from the revenue and agricultural department of the government of India, dated Calcutta, March 22, 1889, the acreage under wheat in Berar is said to be 938,074 acres, being 11 per cent. less than last year. This decrease is due to the scanty rainfall and in some places to rotation of crops and to an increased sowing of cotton. The condition of the growing wheat, however, when the memorandum was dispatched was good and the outturn was estimated at about 10 annas. The price of wheat and flour during the past months on all the important markets has been disappointing to those "bulls" who looked for a good rise and at the Mark Lane Corn Exchange on Wednesday last the tone was not strong. The import of wheat into the United Kingdom during the first thirty weeks of the season was 36,086,120 cwt. against 26,957,155 cwt. last season, and of flour 8,596,804, against 10,822,416 cwt.

The principal topic of conversation on the several markets held during the last few days has been the death of Mr. John Bright, M. P., who was universally esteemed by every one regardless of sect or politics.

The Middling Sieve Purifier patented by Mr. James Higginbottom, of Liverpool, is making some headway in the Midland counties and the inventor is believed to have made some advances to a firm on your side of the water, to introduce the machine to the milling trade of the United States. The purifier which I saw at work during the past month in a well-known flour mill I hope to fully describe, with illustrations, in a future issue. A leading milling engineer recently gave out that this machine was an infringement of a patent which he took out some time since; but I hear that the engineer in question is only trying to make a bargain and obtain the sole right of manufacturing at a reasonable price. The patentee says he will "sell his last shirt" before he will give in, and so the

matter rests, while the machine is making headway amongst a certain class of millers. It is certainly surprising that such a small fan, going at only 90 to 110 revolutions a minute, can do so much.

The *British and Foreign Confectioner*, a London paper published in the interest of the baking trade, has in the past two issues been attacking the English millers for mixing American flour with their home manufactured article and selling it as wholly their own, in defiance of the Merchandise Marks act, which was passed last year. The journal in question attempts to show that the millers do the bakers an injury, as when two flours are mixed together the same quantity of loaves cannot be obtained on account of the particles in the two flours not being uniform. If this act of parliament were put in force against the millers, it would open the door at the end of this year for American flour, which will require some help to regain the position it has lost on the English markets. According to the return issued by the government the total number of cases of stoppage of goods under the Merchandise Marks act for the year 1888 was 9,986. At the time of the preparation of the return there were 123 cases upon which a decision had not been given. The number of entire packages stopped in the case of package goods was 252,282.

The National Association of Master Bakers and Confectioners held their annual convention last week in Liverpool. It was a great success. There were four papers read at the meeting, which lasted two days; but only one will be of interest to the readers of the *UNITED STATES MILLER*. The reader of this paper said that English millers should mill all wheat separately so that the baker would know when purchasing flour what kind of flour he was buying. On a friend telling me of the discussion that followed, I thought what a splendid help the American millers were getting, for they do exactly what the bakers at this meeting were asking for. They mill wheats separately, for they only have one kind of wheat to mill. From the foregoing it will be at once seen that the English bakers are not all content with the flour that English millers are offering them, and it only requires the American millers to get the Merchandise Marks act set in motion and to say that their flour is from one kind of wheat to obtain again the strong hold they had on the English market last year.

Mr. J. M. Case, late of the Case Manufacturing Company, arrived safely in London recently, and will remain in England a short time. He will no doubt eventually go to France and establish a milling engineering company there.

There is some talk of the National Association of British and Irish millers holding their convention this year in Paris, which will give the members of the association a good opportunity of seeing the exhibition. This combining business with pleasure may result in the visitors obtaining many advantages, as many wrinkles will no doubt be dropped by the exhibitors of all the latest milling machinery. A large and influential miller in the north of England who has already had the honor to fill the presidential chair, has consented to be a prominent figure, if not the leader, during this visit. A council meeting of the association will meet early next month and decide the whole matter.

The Sun Flour Mills Co., whose mill at Waltham Abbey was burnt down on Christmas eve, have decided to build a large mill in London. The firm are now looking out for a convenient site and will decide during the next few days which of three sites they will purchase. Mr. H. Simon will no doubt be the engineer.

There are in London at the present time a number of people ready to promote any company; among others we hear of a Bread Company to be started with their own flour mill, bread factory and shops. The amount of money required for this scheme is one million sterling.

The *Russian Nouveau Tempo* states that two hygienic laboratories have been opened recently in the busiest parts of St. Petersburg at which gratuitous analyses are made at any time of specimens of the following articles of consumption: Drinking water, milk, flour, bread, meat, wine, beer and kourmies. What is offered in these laboratories is merely a general opinion as to whether foreign substances occur in articles submitted and whether the latter are fresh or not.

L. MAYORNE.

THE U.S. MILLER for one year and 50 novels for One Dollar.

Don't forget to order at once.

WHAT A MEMPHIS, TENN., SCHOOL GIRL SAW IN A FLOUR MILL.

MEMPHIS, Tenn., April, 1889.

To the Editor:

I send you the enclosed composition of a young miss, a pupil of one of the private schools of this city. As it embraces some very original features and points not generally known, I send it to you as an example of how the young idea shoots in this "land of cotton":

P.

A VISIT TO A FLOUR MILL.

A class of twenty girls, who had been studying the manufacture of flour, visited a flour mill, chaperoned by their teacher. About three o'clock we reached the mill, a large brick structure with a storing house attached. The wheat must be taken through the cleaning house before it can be ground.

It is first put in large bins, to be weighed. It passes to a machine which separates the wheat from the sticks, pieces of dirt and other impurities. This machine is a large bin with a coarse wire sifter attached, which is continually shaken. The wheat passes through to another bin, and the trash goes into a waste collector. The wheat is conveyed to a machine to remove the cockle and other small particles resembling the wheat berry in size and shape. It is then transferred to a large cylindrical-shaped bin, in which each seed is individually brushed and dusted. After this the seeds are perfectly clean and quite ready for grinding.

The wheat is carried to the rolling machine, which takes the place of the old-fashioned mill stones. These are in another room separated from the cleaning house by a brick wall. There are seven rolling machines through which the wheat must pass. In the first, the outside husk is cracked, in the second it is mashed a little more, and when it has passed through seven, a good deal of husks and other impurities have passed out at each roller. The husks that pass out at these rollers is the bran so highly esteemed for food for cows.

The next process is that of separating the glutenous from the starchy matter. This is in a large cylinder with bolting cloth over it, and is called the bolting reel.

There are a great many stops under the bolting reel, which grade the flour; the more that are open the more impurities pass out, and the finer the quality of flour. The oftener the fine pieces of wheat are made to pass through the reel the finer the resulting flour. The center of the building is one mass of conveyors, through which the grain is forced from one process to another by means of fans.

The grain is not yet pure, for the germ still remains, with other small impurities.

The next process is the middlings purifier. The impurities are carried up, and the flour goes to the first floor, where it is packed in barrels or small and large bags, holding from twenty-four to fifty pounds. In the middlings purifier there are frames covered with fine silk, through which the flour is sifted. There is a brush of the width of the purifier, and about two inches wide, which passes along the outside of the silk on an endless chain, to prevent the silks being clogged up. The inventor of this little brush has made \$50,000 on it.

The packing is done on the first floor. There are a great many iron tubes of different sizes coming from the conveyors, which the flour comes through into the barrels and bags.

The flour is brought to the mill in the wheat berry form and put in the cleaning house, and the hand is not put to it until it comes out pure white flour, ready to be packed.

There are twenty-five men employed in the Memphis Mills. The wheat used here is brought from Nebraska and Illinois, but during the first of the season, July and August, a good deal of home-grown wheat is used.

We learned a great deal, spent a most profitable two hours, and will hardly forget the manufacture of flour. We return our most hearty thanks to Mr. Popplestone for his kindness. We were very glad to find that a great quantity of the flour is consumed in this city, for this seems like patronizing home industry, but very sorry and very much disappointed to learn that the mill belongs to a firm not of Memphis.

Miss —.

If you are about to build write to the UNITED STATES MILLER for a copy of "Brean's House Plans," and enclose fifty cents in stamps. It will help you.

ITEMS FROM BEYOND SEAS.



THE Arthurlie Biscuit Factory, the largest in Scotland, burned April 1. Loss, about \$100,000.

EMIL TREITEL, one of the largest grain dealers in Berlin, has suspended payment. His liabilities amount to 6,000,000 marks. The failure affects the corn exchanges of Vienna, Pesth, Amsterdam, Paris and New York.

THE Fletcher Patent Process for making bread, which is being extensively introduced in Great Britain, consists in the addition to the dough of malt diastase, for which it is claimed the bread is thereby rendered sweeter and moister and that it keeps much longer.

THE gambling mania which has taken hold of South Africa is well shown up in an advice from the Paarl. In fifteen minutes fifteen men formed themselves into a gold prospecting syndicate in 65 shares of £100 each. Immediately after the formation there was a rush for shares at £100 premium; the original syndicate gaily sold, and the proprietors are in the proud position of having paid through the nose for a privilege which belonged to them already. All they can do is to go and hunt for gold.

OUR bright contemporary, *The British Baker and Confectioner*, takes the bakers to task for underselling each other and thereby demoralizing trade. It strongly urges the British bakers to combine and form one united body all over the U. K. "If this were done," it says, "we should have little complaint of the now too rampant underseller."

We fear that *The British Baker* will have to do a great deal of missionary work before a thorough "combine" is established.

THE *British and Foreign Confectioner*, in its issue of April 1, says:

"Having dealt with the way the millers mix flour, we will now refer to the loose manner in which the millers purchase foreign flour on the English market. Flour is sold on Mark Lane Market not so much by its value to the baker as by its appearance. For example, we were 'on market' last week when we observed two samples of Hungarian flour being offered to a well-known buyer. One sample was much darker in shade than the other, although the two samples were manufactured from the same wheat. The only difference was in the 'grinding.' The buyer pressed out the flour with a 'spatula' and then gave one shilling more for the flour that was of the lighter shade. The buyer had refused the best sample and taken the inferior one. The reason why the best flour had a dark tint was simply the reflection of the dark prisms between the coarse particles of flour, and if the color had been tested it would have been found that there was a greater amount of 'yellow' which denotes a gluten, rich in strength. American flour is usually bought by millers in the same loose way, and it is the bakers who suffer."

HAVE you a wife, daughter or sweetheart? If so, send \$1.10 for a copy of *The Ladies' Home Companion* and THE UNITED STATES MILLER. Both papers for one year for \$1.10. The former is published twice a month, and is a beautiful 16-page paper. Address THE U. S. MILLER, Milwaukee, Wis.

INK FOR HAND STAMPS.—To make an ink for hand stamps that will not injure the color, mix and dissolve 2 to 4 drams aniline color, 15 ounces alcohol and 15 ounces glycerine. The solution is poured on the cushion and rubbed in with a brush.

SPECIAL STAMPERS OF SHEET METALS.

We do Stamping and Pressing of Sheet Metals for All Classes of Work. Also Tinning, Galvanizing & Japanning.

ALSO SOLE MANUFACTURERS OF

SEAMLESS STEEL BUCKETS

INSIST on having this Bucket furnished when ordering.

Ask your dealer for the Avery Pat. Seamless Steel Elev. Bucket.



We do not advertise Seamless Elevator Buckets and fill orders with "Pieced Ones"

We will make Special Prices rather than move stock to our new factory. Send for discounts.

THE AVERY STAMPING CO.,

SUCCESSORS TO

AVERY ELEVATOR BUCKET CO., CLEVELAND, OHIO, U. S. A.

THE CRANSON SCOURER

IS ACKNOWLEDGED TO BE

The Leading Scouring, Polishing and Separating Machine ON THE MARKET TO-DAY.

Two of these Machines are being placed to one of any other make.

WE ALSO HAVE THE BEST

Dustless Receiving and Elevator Separator

Ever Placed in any Mill.

Write for Rock Bottom Prices and Full Information.

OUR HEADERS:

CRANSON'S WHEAT SCOURER AND POLISHER, With Magnetic Attachment.

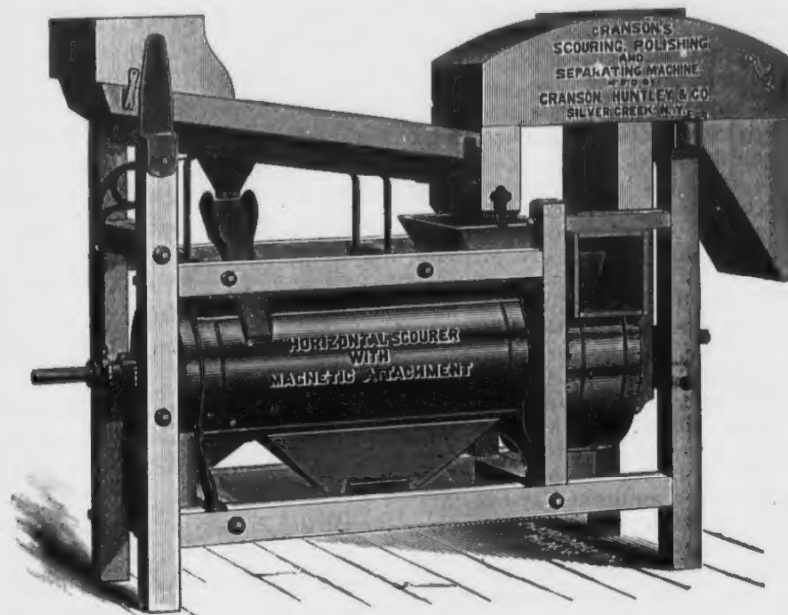
CRANSON'S BUCKWHEAT SCOURER AND POLISHER, With Magnetic Attachment.

CRANSON'S ROLLER BUCKWHEAT SHUCKER.

MONITOR DUSTLESS RECEIVING AND ELEVATOR SEPARATOR.

DIAMOND DUSTLESS CORN SHELLER AND SEPARATOR.

DIAMOND CORN SHELLER.



Huntley, Cranson & Hammond,

Successors to CRANSON, HUNTLEY & CO.,

SILVER CREEK, NEW YORK.

The Best is Always the Cheapest.

—* THE CELEBRATED *—

DUFOUR BOLTING CLOTH

Is admitted by all millers to be the VERY BEST BOLTING CLOTH in the market, and so far ahead of any other brand that, as a matter of economy, they cannot afford to use inferior brands.

\$2,000 REWARD

Will be paid to any person who will furnish evidence to convict the unprincipled dealers who are selling poor and inferior cloths by representing them to be GENUINE DUFOUR.

R. P. CHARLES,

13 South William Street,

NEW YORK CITY.

MILLERS

Of the United States and Canada, write us for our new pamphlet and revised price list of our

Jonathan Mills Universal Flour Dresser

The BEST machine on the market. Giving satisfaction everywhere, in the best Mills of this country. Thousands in use. We carry a full line of CROWN SILK ANCHOR BOLTING CLOTH AND GRIT GAUZES.

JONATHAN MILLS MFG. CO., CLEVELAND, OHIO, U.S.A.

We Solicit Your Orders.

**STILL ON TOP!**

Perhaps the highest compliment that could be paid the "SALEM" Bucket, is the fact that, during the past few years, its shape has been so closely imitated by other manufacturers, as to infringe our patented rights; but experience reveals the imperfections of imitations, and we therefore, take it as a further compliment to the "SALEM" Bucket, that some of its old patrons who were induced to try the imitations, have now returned to the Salem Bucket, thereby acknowledging it to be the most satisfactory. Don't be deceived by other makes of Buckets that are claimed to be "just as good." Insist upon having the original and reliable "SALEM" Bucket. All legitimate "Salem" Buckets are plainly marked with the word "SALEM."

W. J. CLARK & CO., Sole Manufacturers, SALEM, OHIO.

THORNBURG & GLESSNER, General Agents, CHICAGO, ILL.

NEWS ITEMS OF ALL SORTS.

BURNED, Apr. 9. Matteson & Son's mill at Cherry Creek, N. Y.; loss \$5,000; insurance \$3,200.—A 50-barrel mill is being built at Nettleton, Ohio, by Harrison & Loudenbeck.—The steam roller flour mills of Fred Kurtz & Son at Center Hall, Pa., were burned on the 6th inst.; loss \$22,000; insurance \$5,000.—H. F. & A. E. Rozler are about to build a mill at Sparta, Ga.—A custom flour mill is being built at Putnam, Ga., by Chas. Knowlton.—Geo. Willis is preparing to build a mill at Horse Cave, Ky.—A 40-barrels flour mill is contemplated by W. M. Bergmann at Oxford, Md.—Peter Jung and Fred Clayton have purchased the 250-barrel steam mill, known as the Prairie Mill, at Perham, Minn., for \$20,500.—H. D. Townner's mill and elevator at Hays City, Kans., were burned Apr. 8; loss \$17,000; insurance \$2,500.—The Henderson Milling Co. of Sheffield, Ala., are making good progress towards the completion of their 250-barrel steam roller mill, and it is expected to be in readiness before the receipt of the new crop begins.—Fergus Bros. whose mill was recently burned at Nashville, Tenn., will rebuild.—A 75-barrel roller mill is about to be rebuilt by Showers, Murphy & Co. at Madisonville, Ky.—A 50-barrel flour mill has been contracted for by Carr & Tolle at Maysville, Ky.—Frank Lannot, whose mill was recently burned at Glen Falls, Md., will rebuild.—Casky, Christian Co., Ky., is desirous of a flour mill and give a bonus to the builder.—A flour mill is contemplated by S. W. Kelly & Son at Charleston, S. C.—C. Crow, late manager of the Omaha Milling & Elevator Co. is about to build a roller mill at Whitewood, Dak.—Kilarney, Manitoba offers a bonus for the erection of a flour mill at that place.—The Trumpet Milling Co. has been incorporated at Covington, O. The incorporators are Barney Lempker, August Pieper and J. Graziani. Capital stock, \$75,000.—J. S. Heffner of Kutztown, Pa., is building a 75-barrel roller mill for the manufacture of wheat and rye flour.—Hartsack & McGrew of Nokomis, Ill., whose mill was recently destroyed by fire, will immediately build a new mill of 150 barrels capacity.—The contract has been let for a 40-barrel flour mill for the Houston Milling Co., Houston, Mo.—A stock company has been organized for the purpose of erecting a 150-barrel roller flour mill at Climax, Mich. Shelton & Ault are successors to R. C. Lockhart, miller, Odessa, N. Y.—Burns & Co. will build an oatmeal mill at St. Joseph, Mo.—Geo. B. Coxon's flour mill at Baltimore, Md., was recently burned. Loss, \$15,000; insurance, \$5,000.—C. C. Whitaker of Principio Furnace, Md., has let the contract for a 40-barrel roller mill.—The flour and feed mill of Chas. Bullard & Co., East Aurora, N. Y., was recently destroyed by fire. Loss, \$8,000; insurance, \$4,000.—The Trimble Roller Mill Co. of Trimble, Tenn., have placed their contracts for a 75-barrel roller mill.—A bonus of \$5,000 is offered to the party who will build a flour mill at Russell, Manitoba.—A grist mill at Warren, Mass., owned by J. B. Gould was burned March 26. Loss, \$7,000; insurance, \$3,500.—The Rockwall Milling Co., Rockwall, Tex., with a capital stock of \$50,000, has been chartered, and will build a 200-barrel mill.—Neely & McCord are building a 60-barrel flour mill at Pulaaki, Tenn.—Chase & Wells succeed Huntington Bros. in the milling business at Leonardsville, N. Y.—The firm of Stone & Campbell, millers, Rochester, N. Y., is succeeded by Henry D. Stone.—Drawer & Schaupp are building a 75-barrel roller mill at Alliance, Neb., at an estimated cost of \$25,000.—Wellington, Schalk & Co. of Anderson, Ind., are enlarging and remodeling their mill. When completed it will have a capacity of 125 barrels.—Ferguson Bros., whose mill near Nashville, Tenn., was recently burned, causing a loss of \$8,000, will rebuild. J. W. Gilbert is building a 50-barrel flour mill at Owensboro, Ky.—The flour mill near Hempstead, Md., owned by M. Brillhart was burned on the 1st inst. Loss, \$7,000; insurance, \$3,500.—The contract has been awarded for a 50-barrel roller mill at Eldon, Iowa, for R. Ritz.—The Fayette Milling Co. has been incorporated at Fayetteville, Ark.; capital stock, \$30,000. Directors: J. W. Massengale, H. T. Massengale and G. D. Oberschels.—The new mill building for L. Duerer & Bro., at Stanford, Ky., is completed and the machinery being placed. The mill will have a capacity of 50 barrels.—W. P. Bowman of St. James, Mo., is building a 50-barrel roller mill.—J. B. Kehl's flour mill at Chippewa Falls, Wis., was recently burned. Loss, \$35,000.—Gilbert, Howells & Co. of McKenzie, Tenn., have contracted for the necessary machinery to complete a 50-barrel roller mill.—The Excelsior Milling Co. of Chicago has been incorporated to conduct a general flouring mill business. The incorporators are William H. Kane, W. Yates Selleck and Harry F. Crawford; capital

stock, \$30,000.—The Mercantile and Milling Co. of Echo, Oregon, has been incorporated with a capital stock of \$50,000, having for its object the building of a large flouring mill at once, and the selling of grain and merchandise. The incorporators are F. W. Hendly, John Barker, J. H. Koontz and James Taylor.—The Mt. Pleasant Milling Co., Mt. Pleasant, Iowa, has filled articles of incorporation. The parties interested are Frank H. Ketcham, W. B. Ketcham, Leander Ketcham, Winfield Ketcham and A. W. Warren, and the capital stock is \$50,000.—W. A. Latham is present owner of the Crown Roller Mill at Bloomington, Ill., he having concluded a purchase on March 23 for \$17,000.—W. Ewald, a former partner in the City Roller Mills at Delphi, Ind., has purchased and will operate the Eagle Mills at Red Ridge, Ind.—Wesley Henderson, Christian Nordling and C. V. Nordling are the incorporators of the Anna Milling Co. of Anna, Ill., with a capital stock of \$15,000, and its object, to deal in grain and transact a general milling business.—Fort Worth, Texas, is to have a large roller flouring mill, some of the citizens of that place having formed themselves into a stock company under the name of The Liberty Hill Roller Mill Co., with a capital stock of \$10,000, made up by issuing shares at \$50 each. It is expected to have the mill ready for operation by next fall.—W. H. Howell & Co.'s flouring mills on the east side of the Fox River, near Geneva, Ill., were recently burned. Loss, \$10,000; insurance, \$5,500.—Johnson, Erickson & Co. of St. Peter, Minn., will build a 200-barrel steam flouring mill at Marshall, Minn., having accepted a bonus of \$2,000 offered by the citizens of the latter place.—The American Company is building a flouring mill at Nashville, Tenn., which will have a daily capacity of 1,500 barrels, and will be the largest flouring mill south of the Ohio River.—Zacharias Bros. of Odessa, Minn., have awarded the contract for a 75-barrel mill at that place.—The Star Mills at California, Mo., was recently sold by the sheriff to O. F. G. Hobericht for \$8,000.—A stock company is being organized at Graham, Va., with a capital stock of \$20,000, to erect a roller flour mill.—J. B. Lillie, whose mill at Franklin, Tenn., was recently burned, is rebuilding. The new mill will have a daily capacity of 300 barrels.—The flouring mill at Newton, Iowa, formerly owned by J. B. Mershon & Sons, is now owned by the People's Co-operative Association of Jasper County.—The Alliance Flouring Mill Co. is a late organization at Greenville, Texas. Capt. H. H. Wade is general manager.—The Constantine Milling Co. of Constantine, Mich., has recently been incorporated, with a capital stock of \$30,000.—H. J. Stedman will rebuild his mill recently burned at Sauk Centre, Minn.—A 50-barrel roller flour mill will be built by Gussom, Ritchey & Williams at Burkesville, Ky.—The Prague Milling Co. is the name of a new organization at Wahoo, Neb., with a capital stock of \$50,000.—A 100-barrel flour mill is contemplated at Huntington, W. Va., by a company, with C. E. Gwinn as leader.—A 40-barrel water power roller mill will be built by O. J. Dundas at Kelso, Tenn.—Muncie, Ill., is promised a \$10,000 flouring mill by parties from Homerville. A 300-barrel flouring mill is being built by the Merritt Milling Co. at Morristown, Tenn.

WM. BLAIR and others are building a mill at Russell, Kan.

GOOD reports reach us from a large number of Ohio mills.

KRAFT & SHERER will build a 50-barrel mill at Mendon, O.

R. S. CONNER & Co, Sheridan, Oregon, are remodeling their mill.

W. J. CRONK will build a 75-barrel mill at Harbor Springs, Mich.

C. D. PERFECT & SONS, Marysville, O., will increase capacity to 140 barrels.

The damage by fire to the Victoria Mill in St. Louis is being rapidly repaired.

BURNED—Dorwin, Rich & Stone's mill at Owego, N. Y. Loss, \$45,000; insured.

JOHNSON, Erickson & Larson will build a 200-barrel roller mill at Marshall, Minn.

TAYLOR BROS.' mill at Farmington, Wash., will soon be remodeled to the roller system.

J. B. HUTTON & SON of Perry, N. Y., are having their mill changed to the roller system.

The Zenith Roller Mill Co. of Bloomington, Ill., has incorporated with a capital of \$40,000.

A NUMBER of changes in mills and milling firms have taken place in Northwestern New York.

M. W. GLENN of Minneapolis has moved to Duluth, where he has started a large boiler shop.

J. S. BEATTIE has leased the steam mill at East Victor, N. Y. Its capacity is about 50 barrels daily.

THE Baltimore flour market has recently been worked by a number of representatives of prominent Western mills.

S. HOWES of "Eureka" machine fame, was recently elected president (mayor) of his native town, Silver Creek, N. Y.

ADAM G. GROFF, a prominent miller near Lancaster, Pa., has made an assignment. Liabilities, \$27,000; assets, \$20,000.

A SHIPMENT of 480,000 bushels of corn was made recently in one day from Detroit—the largest shipment ever made in one day from that port.

It is said that very nearly all Minnesota and Dakota wheat now being received is used by Minnesota millers to fill their current demand for flour.

A NEW mill in place of the one burned in February will be built at Shelbyville, Tenn. The "Victor" Mills of that place are running full time, and business is good.

TWENTY Ohio millers got together in Dayton recently and held a pleasant little State Association meeting. They concluded to unite with the Central Millers' Association.

AT Baltimore, Md., March 30, the four-story grain and flour store of Luke Smith, Nos. 2105, 2107 and 2109 Eastern avenue, was burned at 10 p. m. The loss is estimated at \$10,000, and is fully insured.

DIED—Charles L. Gratiot of Platteville, Wis., of apoplexy, aged 40. He leaves a family of wife and child. Mr. Gratiot, like his father, Col. Gratiot, was a well-known inventor of milling machinery.

A SHOWER of ashes and powder resembling emery powder, accompanied by rain, fell in the vicinity of Green Bay, Wis., recently. It is thought that a prairie fire in the county was the primary cause of the peculiar phenomenon.

THE extensive freight houses of the Boston and Lowell division of the Maine road at Boston were burned April 10, with forty loaded freight cars, large quantities of flour and grain, and other merchandise. The loss is placed at \$500,000.

AT a recent meeting of the Michigan State Millers' Association, which was fairly well attended, it was agreed to aid in securing the passage of a bill in the legislature providing for a State grain inspector and deputies for inspecting all grain received at public elevators in the State.

THE city of Watertown, Wis., has finally, after nearly thirty years of litigation, won a victory in the United States Supreme Court freeing it from a debt of about \$500,000 with interest, that amount having been voted to a railroad that soon after getting the cash went into bankruptcy.

AT the J. I. Case Threshing Machine Co. engine shops, Racine, a new patent machine for boring holes in cast iron engine wheels has been introduced. It is a patent of Mr. J. Walrath, the superintendent, and works to perfection. Recently ten holes were bored in three minutes, where it formerly took over thirty minutes.

THE Harrison-Switzer Milling Co., Belleville, Ill., have taken out articles of incorporation, with a capital of \$50,000. The incorporators are Johnson Beggs, Michael Reis and Wm. B. Switzer. The company will operate the old Harrison mill on West Main street, which will be at once equipped with machinery for making flour by the roller process.

THE J. B. Allfree Co., Indianapolis, Ind., have closed contracts with Bennett & Gates, Geneva, Ill., for a 200-barrel mill; with Stephen Hoerner, Germantown, O., for a 40-barrel short system mill; with J. J. Moore, Trafalgar, Ind., for a 25-barrel short system mill, and report the sale of special corn milling machines, to replace machines of other makes, to J. H. Hodapp, Seymour, Ind.; the sale of Allfree sieve scalpings for three breaks to Knoblock, Gimy & Co., South Bend, Ind. They are also placing scalpings in the Hoosier State Mills at Indianapolis, Ind.

THE Iron Bay Manufacturing Co. will remove their entire plant from Marquette, Mich., to Duluth, Minn., immediately. It now employs 300 men, principally skilled laborers. It is a large manufacturer of engines, mining machinery, hoisting engines and the like, as well as of general foundry castings and of boilers of all styles. It has been in business many years, and has worked up a tremendous trade with the Michigan iron ranges, the Gogebic and the Vermillion and the silver and copper mines of Montana, besides a very large general business. The company will have a paid in capital of \$300,000 and employ 350 men, meaning an addition to Duluth of about 1,000 people.

SPECIAL NOTICE.

WE will furnish any one in the United States or Dominion of Canada, for one year, with THE UNITED STATES MILLER and The Northwestern Miller, for \$3.25; including "50 novels," \$3.75.

NO MILLERS IN HELL.

A QUAIN OLD LEGEND.

A strange legend bearing the stamp of mediæval manufacture is said to be still current in Lower Austria, and as this tale is concerned with millers and bakers, it may be worth relating here. Once on a time, so the peasants of Lower Austria say, the arch enemy of mankind took stock of his dominions. He found all sorts and conditions of men, but noticed to his great mortification that there was not a single representative of either the milling or baking trades. He accordingly dispatched one of his trustiest messengers, with peremptory instructions to visit the earth and bring down with the least possible delay a member of each of the unrepresented branches of industry. Now Satan's emissary, accustomed to implicit obedience, made no remark, but at once spread out his wings and made his way upon earth; yet he felt extremely puzzled how to act, as he had never even seen a miller, which speaks volumes in favor of the probity of the mediæval representatives of the dusty craft in Lower Austria. Like a prudent individual he made inquiries, as soon as he reached the earth, concerning the appearance and habits of millers, and he was told that they were quite white, and usually found in the neighborhood of brooks. This intelligence pleased the fiend very much; he had come from a sultry clime, and the idea of a trip to green pastures and bubbling brooks was inexpressibly grateful to him. He soon got on a country road, and, as luck would have it, he had not walked a quarter of a mile before he passed a meadow in which a white horse was contentedly grazing on the sweet spring grass. The fiend looked long and hard at the horse; he saw something that was perfectly white; he could also hear close by the song of a rivulet as it tumbled down a hillside, splashing for very glee the pebbles that lay in its path, and he might well be excused for jumping to the conclusion that at last his prize was before him. He said to himself: "The miller has left his brook for once, and I may as well take him off his guard." So he crept up with slow and stealthy steps to the white shape and seized it by the hindquarters, but only to receive a kick on the shin, from which, according to the story, he has limped ever since. At any rate, he was so injured that he was compelled to return without either miller or baker, and over his reception from his master the legend draws a discreet veil. But we are informed that those servants of the destroyer who were sent to carry out the errand which the first messenger failed to accomplish had no better success, and it is said that up to the present time the infernal regions know neither a miller nor a baker. This is indeed flattering unctious; but the thought will obtrude itself that peradventure in Lower Austria undersellers and long-firm traders may be unknown.—*The Miller (London).*

CEMENT FOR MACHINERY FOUNDATION, ETC.—London Industries says that the cement by which many stone buildings in Paris have been renovated is likely to prove useful in preparing the foundations for machinery. The powder which forms the basis of the cement is composed of two parts oxide of zinc, two of crushed hard limestone, and one of pulverized grit, together with a certain proportion of ochre as a coloring agent. The liquid with which this powder is to be mixed consists of a saturated solution of six parts of zinc in commercial muriatic acid, to which is added one part of sal ammoniac; this solution is diluted with two-thirds of its volume of water. A mixture one pound of the powder to two and a half pints of the liquid forms a cement which hardens quickly and is of great strength.



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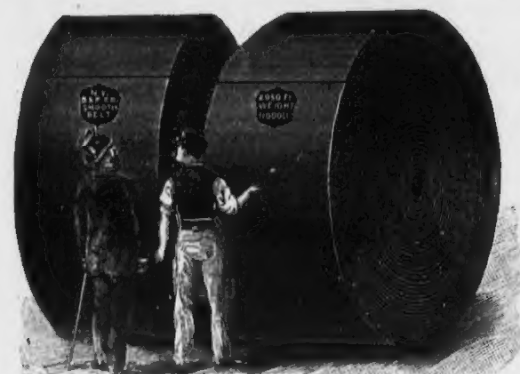
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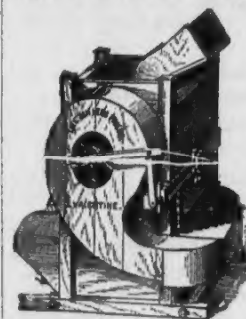
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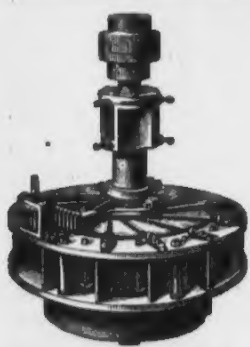
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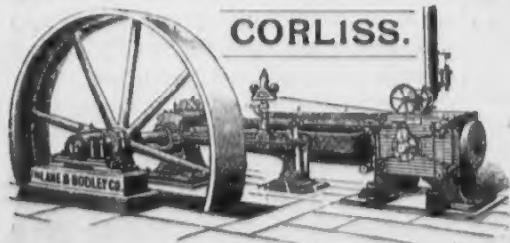
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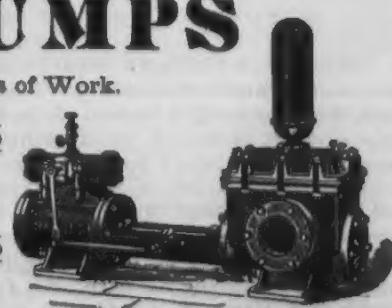
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STEAM * PUMPS

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PROPOSED NEW TORONTO BOARD OF TRADE BUILDING.

The Toronto Board of Trade, five or six years ago, was an unimportant body compared with what it is to-day. Since its amalgamation with the Toronto Corn Exchange, in 1884, its membership has increased from 200 to 1,000. It now represents every important commercial and manufacturing industry of the Province. For some time past the rooms of the Board in Imperial Bank Buildings have been too small. It was finally decided about two years ago to purchase, as the site for a new building, the property on the northeast corner of Front and Yonge streets. The cost of this site was \$55,000. Arrangements are now being made to erect thereon, in accordance with the design shown in our engraving, a building of some six stories. The Board of Trade requires a large hall of an area of 1,925 feet, a reading room of 875 square feet area, a clerk's office of 300 square feet area, a council room of 520

We are indebted to the publisher of *The Dominion Mechanical and Milling News* of Toronto, Canada, for the illustration and description as above.

AUSTRALASIAN FLOUR MILLS.

In Australia at the present time a number of flour mills are being constructed on or remodelled to the gradual reduction system of manufacturing flour by rollers. During the past month the successful starting is announced of Maryborough Flour Mills, which have been reconstructed to the Simon system of milling by Messrs. E. C. Elliott & Co. of Sydney, the Australian agents for Mr. Henry Simon of Manchester. These mills, which are the property of Mr. Cadwallader, an advanced Australian miller, were taken in hand by the contractors on the 4th of December, 1888, and the installation was completed and put to work in the short space of six weeks, notwithstanding the difficulty of obtaining workmen at that season of the year. The machinery is disposed on the three floors of the mill in the following order: On the ground floor are the bottoms of the fourteen elevators, arranged in one line; second floor is given up to six double roller mills and a large dressing machine, and the dressing and purifying machinery is located on the top floor. The motive power required to drive the mill is obtained from a steam engine with a 13-inch cylinder and a 24-inch stroke. William Hancock, the milling expert, was in charge of the mill, and writes that the roller plant was very successfully put to work on the 21st of January, the machinery starting as if it had been working for months, and flour produced three hours after the feed had been turned on was sent out to customers. The mill is capable of producing 200 bags of flour in twenty-four hours, and is a credit to all those who had the work in hand. After

starting the mill it was open for public inspection for one week.—*The Miller* (London).

A ST. LOUIS ELEVATOR TRUST.

It is about definitely settled that the eleven grain elevators of St. Louis will form a trust or combine, the idea being to put a stop to the expensive competition which now exists. Capt. D. P. Slatery, the moving spirit in so many successful enterprises, is authority for the statement that the majority of the St. Louis elevators had agreed to enter the combination, and that the project will likely go through. Realizing that competition has placed the elevators in a line of business which is somewhat uncertain, even when confined to the safest limits, the different concerns have come to the conclu-

regard to its storage and use. The tanks should be of iron, placed upon solid foundations and fitted with tight covers provided with ventilating pipes for the removal of any vapor passing off from the oil. The tanks should be situated

where they will not constitute an exposure to the buildings in case of fire. It is very desirable that the main tank, at least, if not above ground, should be surrounded by a pike or embankment inclosing a space sufficiently large to accommodate the whole contents of the tank without overflow.

There should be two tanks, the main tank being placed where it could receive the supply discharged from the tank

circulation and influence, its merits and superiority over all others, is not unlike the boy who whistles to keep up courage. Self-praise in newspaperdom is about as consistent in true journalism as a man is who brags about his talent, wealth or fine clothes. To enlightened readers it is nauseating. If a paper has any circulation or influence it should be the last one of all to boast of the fact; true esteem is gained by other means. Nothing can be more indicative of weakness or a lack of good sense and breeding than to see in the editorial columns of a paper exhibitions of empty boasting. It is better to let the readers of a journal be the judge; they always return a just verdict, while the conceited editor may not. These remarks are, in all sincerity, given for the benefit of any editor or publisher upon whose cranium the cap is most becoming.—*Hotel World*.

OPENING UP SIBERIA.

It is rumored that an American syndicate, with a capital of \$50,000,000, has been formed to construct a railway in Siberia, and that several former and present diplomatic and consular American agents are interested in the undertaking. It is singular how thoroughly these gentlemen share with Sir Robert Morier the view that there is money to be made by the development of Siberia.

A MILLION BUSHEL.

People talk glibly about a million bushels of wheat, but very few of them realize what a vast amount that is. A wheat broker says "that if a million bushels were loaded on freight cars, 500 bushels to a car, it would fill a train over 15 miles long; if transported by wagon, 44 bushels per wagon, it would make a line of teams 142 miles long. If made into bread, reckoning a bushel to every 60 pounds of flour, it would give each man, woman and child in the United States a 2-pound loaf of bread.

THE MOTION OF THE TOP AND THE BOTTOM OF A WHEEL.—If the top of a buggy wheel, when in motion, went no faster than the bottom, the

wheel would go around in the same place. Here is the reason: No forward or backward motion of a vehicle is possible unless the top moves faster than the bottom. There is a fixed ratio in this as immutable as the law of the Medes and Persians. In a wheel on a fixed axle the bottom moves backward as fast as the top moves forward; but in a wheel that is going forward drawn by a progressive axle, the bottom does not go back at all, but remains almost stationary until it is its turn to rise and go forward.—*New York Sun*.

TO REMOVE RUST FROM STEEL.—To remove rust from steel, and at the same time restore its polish, the following is recommended by the *Chemist and Druggist*: Take of cyanide of calcium, 15 parts; of fatty soap, 15 parts; of whiting, 30 parts, and of water sufficient to make a stiff paste. The steel is first washed with a solution of one part cyanide of potassium in two parts of water, and then immediately rubbed with the above. Both of these formulae should be carefully dispensed on account of their active poisonous qualities.



PROPOSED NEW TORONTO BOARD OF TRADE BUILDING.

sion that, if competition was removed and the elevators assumed the certain profits they might make as warehouses, the saving in many other directions would in the long run make the business more profitable than it is now, and wholly remove the hazard to which the business is now exposed. It is figured that \$75,000 per year can be saved in switching charges alone, while \$100,000 per year of a reduction would be made in the expense of operating. The size of the syndicate which will manage the elevators will naturally be large, for the original value of the property is about \$4,000,000.

HOW TO SAFELY USE PETROLEUM FOR FUEL.

The Associated Factory Mutual Insurance Companies have something to say out of their experience with petroleum for fuel, which is of interest to underwriters.

The hazards attending the use of petroleum as fuel are largely of a controllable nature, and are dependent almost entirely upon the precautions taken in

cars by gravity, whence it may be pumped into the smaller or distributing tank which feeds the oil directly to the burners.

An overflow pipe in the distributing tank should be placed so as to discharge any excess of oil back into the reservoir tank.

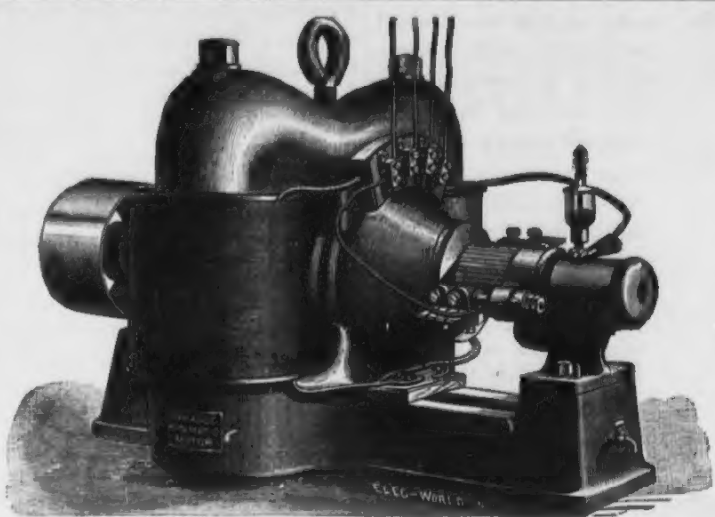
Pipes should be placed underground as far as possible; the various connections should be supplied with valves for cutting off the flow of oil when desired.

If the oil is admitted to the burners before a flame is placed in the furnace, flashes or explosions are almost sure to follow, and it is absolutely necessary for safety that a burning torch or other flame be placed in the furnace before the oil is let on to the burners.

The above requirements may be modified as needed, according to the circumstances pertaining to the use of oil fuel for metal working and other purposes.—*Price Current*.

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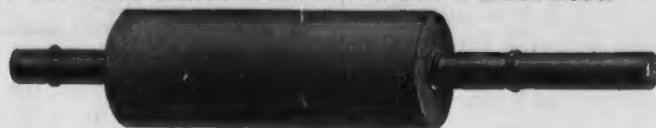
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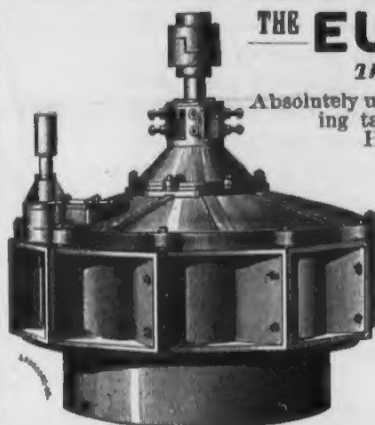
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24" Wheel.....	.8206	.7910	.7700	.7003
24" Wheel.....	.8078	.7578	.7275	.6936
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No other turbine ever approached the above figures at part-gate. We publish our part-gate figures. Others significantly omit them.

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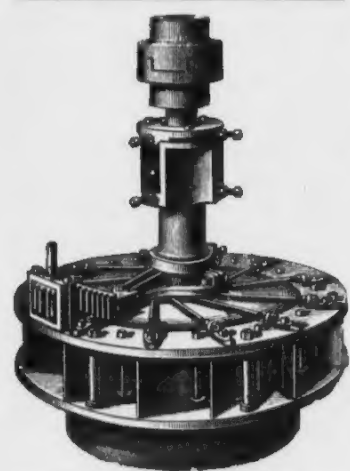
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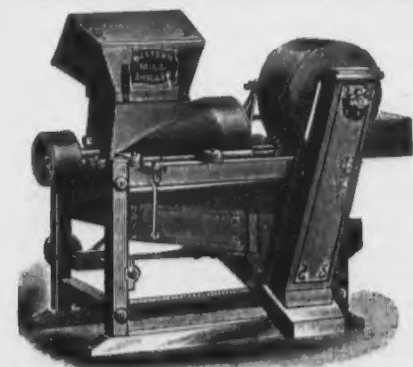
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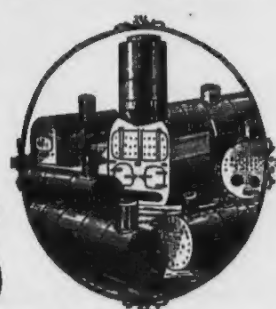
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By most approved roller process, guaranteed the best and purest rye flour manufactured. WE INVITE CORRESPONDENCE FROM CASH BUYERS.

ENGINE FOR SALE.

One 600 Horse Power Corliss Upright Compound Engine

Diameter of high pressure cylinder 28 inches, 38 inch stroke. Diameter of low pressure cylinder 56 inches, 38 inch stroke. Length of crank shaft 11 feet. Diameter of journals, 15 inches. Diameter of fly wheel, 24 feet. Weight of fly wheel, 48,000 pounds. Boiler feed pump. Engine complete, in good working order; can make from 1,000 to 1,200 bbls. of flour in 24 hours; has made a barrel of flour with 20 pounds of coal. For particulars apply to

JOHN B. A. KERN & SON,

EAGLE FLOURING MILLS.

MILWAUKEE, WIS.

A LETTER FROM AN OCTOGENARIAN MILLER AND MILLWRIGHT.

At the Millers Convention held in Buffalo in June, 1888, we had the pleasure of meeting Mr. Jacob Valentine of Gorham, N. Y., a practical miller and millwright of over half a century's experience, and asked him sometime to write us a chapter about milling as he found it in New York, fifty years ago. Mr. Valentine has invented a number of machines, and added improvements to many others, but his Corn-sheller which he has christened "The

largest farmers brought a grist to try and was well pleased. He told his neighbors and the current began to turn. January being very cold the small streams became frozen up and the grinding came in from a distance so that we had all the work the mill would do, and continued till the breaking up in the spring. In March a man came in the mill with a bag of wheat and wanted it ground; I opened the bag and it was nice plump wheat, but as black with smut as I ever saw. I told him I had nothing to clean it with and would not grind it, for he could not use it. I told him if he would wash it I could give him

increase of custom from a distance, so that the manager and part owner of the new mill twelve miles distant called to see what it was; he was considered the captain among millers at that time, and was generally consulted when alterations and improvements were to be made. He came in and was very glad to see me; said he heard I had been making some improvements in the old mill, and as he had been to visit his brother living near there, and as he usually went around once a year to see what improvements were being made, he would like to look around. I took him around and showed the alterations I had made,

run a custom mill only on shares. He said "I will give you better wages than we have ever paid." I told him when he made up his mind to let the mill on shares I would talk with him. He kept calling occasionally, until in February he came in and wanted to know if I had made up my mind to run the mill for them the next year as they should want a miller the first of April, I said, you know the conditions I will work on and as it is time we should know what we are to do, if you accept the conditions I will run the mill for you, on the further conditions that if either party becomes dissatisfied he is to give one month's notice. "Well," he said, "I have talked with the proprietors and they have consented to accept the terms you demand, and shall require you when the work is crowding to start at 8 o'clock in the morning and run as late nights as necessary to keep the work along." I replied that I expected to run the mill to the best advantage to do the work. He invited me to go a week before the time to look into the run of the mill. I worked with the miller during the week and he never spoke to me only when I asked a question until the last day of his time, and that day he talked freely and said, it was probably the last day he would ever run a mill. The millers at that time generally ran about 120 revolutions and even that motion caused a deal of trouble filling up and dropping down in the eye. I ordered tin tubes about 8 inches in diameter and reduced the eyes and got rid of the trouble of loading in the eye and usually ran my motion up to 160, getting through fully a third more grain daily than they had been doing. The Captain came in one afternoon and said, he was going to stay and see me work. I told him, I did not like to be watched as I could work better without watching. That evening he told me he was satisfied. I was grinding about a third more grain daily than the mill had ever done before and he did not understand it as I did not seem to use any more water than they had always done. I told him I must use more water as I ran the mill faster and when needed, carried all the water the wheel would carry. When the books of the year were footed, they found the earnings nearly a third more than in any year previous. The next two years, 1832 and 1833 the crops were good and the earnings largely increased. The next year the weevil cut the wheat badly and the quality of what was left was very poor. In 1835 the crop was a total failure all through that section and milling suffered accordingly. Having over worked for some years, in



DIVERTING DAM—SAN DIEGO FLUME. [See descriptive article on front page].

Millers' Friend," is the best known, and has secured a reputation for doing good and rapid work. It is no little trouble for a gentleman of Mr. Valentine's age to sit down and compose and write a long letter, and we here tender to him our hearty thanks for complying with our request. Here is Mr. Valentine's letter, *verbatim*:—

Editor UNITED STATES MILLER:

Having been confined to my room most of the winter, the time dragging wearily, I concluded to answer a request often made to write a chapter of my experience in milling.

Over half a century ago, I started out to a cluster of eight mills most of them on a fine stream and occupying a space of about six miles diameter and doing most of the milling for a large section. I soon learned they had a supply of help for the winter, but was told that the old Red Mill was without a miller and was located near the center of the group, and as I had to pass near it on my way home I called to see it. It looked hard on the outside, but I found it had been repaired with a new wheel and the machinery was in fair condition. It had two new and very good bolts, 3 run of stones, a corn and cob crusher, a rolling screen and a little rotary fan on each curb constituted the machinery; and among the 8 mills the only cleaning works was the screen and little fan. I looked it over and the young man urged me to go and see the proprietor. I found him a fine old gentleman, infirm and confined to the house most of the time. He urged me to stop the night with him, and I did so. He talked up the situation and strongly urged me to stop with him and run the mill. I told him they were so thoroughly surrounded I feared we would get nothing to do, only a little neighborhood work. He finally made a proposition that he would board me and give half the mill earned till April, and as I knew of no other vacancy, I accepted it. I took possession the following Monday. I found the stones in a horrible condition, not having been dressed in over a year—furrows 1 in. wide, feather edge about as deep as the back, and the face in ridges. I worked on it a full week, got it faced and furrowed, and found it a splendid grinding run. As the other flouring run was put in 2 years before it was in very good face except a little high at the eye; the furrows were in the same size and shape which I dressed out to feather edge and proper width. I then started up and did the grinding as the work came in, which was rather slow for a few weeks. I soon learned the most of the wheat went to other mills, and gave out an invitation to try us. One of the

a good flour; he said he had no place to dry it and would not bother with it. I said bring a load and we will wash and spread it on the floor and rake it over a few days till in condition to grind. He did so, and we washed it and in about ten days ground it. He took it home and tried it, and took the trouble to report to his neighbors that it was the best flour he ever saw. Well, perhaps it was because we washed out that terrible *crease dirt* we read so much about in these latter days. The result was that it brought all the work to me from the village in which he lived.

and showed him the smut machine and started it up and ran through a few grists. He examined the wheat before and after the operation, said it must make a great improvement in the flour. I told him I meant to increase the motion as soon as I could get around to it, and invited him to call again when he came that way. After I increased the motion on the machine I could clean as fast as I cared to and it worked first rate, and the captain became a frequent visitor.

As the water was getting low in the small streams our work got so we had to



RESERVOIR SUPPLYING SAN DIEGO FLUME. [See descriptive article on front page].

As the only cleaning works in any of the mills were a rolling screen and a fan on each curb, I conceived the idea of making a machine to scour and clean the grain. I told the proprietor that if he would furnish the material I would make the machine, to which he assented, and in June I got the machine in operation, and found it a complete scourer—it took the furs completely off of wheat, also the blossom off buckwheat and made a great improvement in the shade of the flour. That the machine was a success I was soon convinced, as customers frequently spoke of the improvement in the bread and the steady

run much of the night to keep along and accommodate customers from a distance making pretty severe work in running all day and most of the night, but we kept it up till a rain came that started up the small streams giving us some relief. The Captain came in one day and said he had made up his mind they would build a smutter, and called to see if I would go and run the mill for them and would make any repairs that I wanted. I told him if he gave me the same terms I had there I would, he said the owners would not consent to let the mill on shares. I told him I would not

1834 my health gave away so that I had to quit the mill, the Doctor told me I could make up my mind, I was done working in a mill. I did not take his medicine, and as I had business out doors to keep me busy looking after it, I gradually regained my health and have run mills many years since.

J. VALENTINE,
Gorham, N. Y., April 25, 1889.

WINEGARD & Persons elevator with grain stored therein at DePere, Wis. burned April 30. Loss \$40,000. Insurance \$25,000.

AN AUTHENTIC BUYERS' GUIDE.

MILL AND ELEVATOR BUILDERS, MILL FURNISHERS, MANUFACTURERS OF AND DEALERS IN MILL AND ELEVATOR MACHINERY AND SUPPLIES.

Cards will be inserted under this heading in the "U. S. Miller," not exceeding three lines, copy of paper included, for FIVE DOLLARS per year, cash with order. Additional lines, \$1.00 each, per year.

Edw. P. Allen & Co., Milwaukee, Wis., builders of complete Flour Mills, manufacturers of Flour Mill Machinery, and dealers in Supplies of every description. (Mr. 89.)

Garden City Mill Furnishing Co., Chicago, Ill., Mill Builders, manufacturers full line of Flour Mill Machinery, dealers in Mill Supplies, Bolting Cloth, etc., etc. (Mr. 89.)

Borden, Sellack & Co., 48 & 50 Lake St., Chicago, Ill., manufacturers of "HARRISON CONVEYOR" for Grain, Mill, etc., etc. (Mr. 89.)

John C. Higgins & Son, 165 West Kinzie Street, Chicago, Ill., mfrs. of and dressers of Mill Picks. (Mr. 89.)

M. P. Yale & Co., Milwaukee, Wis., Manufacturers' Agents of Engines and Rollers, New York Leather Belting Co.'s Leather Belting, Dodge Wood Pulley

Peole & Hunt, Baltimore, Md., manufacturers of Steam Engines, Water Wheels, Flour, Corn, Paper, Saw and Cotton Mill Machinery.

W. J. Clark & Co., Salem, O., manufacturers of "HARLEM" Elevator Buckets, etc. (Mr. 89.)

Thornburgh & Glessner, 18-22 N. Clinton St., Chicago, Ill., manufacturers of Mill and Elevator Supplies.

R. C. McCutley, (P. O. Box 214) Lancaster, Pa., manufactures of Crushers, Cooper's Stoves, Castings, Pitteries, etc. (Mr. 89.)

B. M. & J. Sanford, Phoenix Iron Works, Sheboygan, Falls, Wis., manufacturers of the "IMPROVED WALSH DOUBLE TURNING WATER WHEEL." (Mr. 89.)

John C. Kliner, York Foundry and Engine Works, York, Neb., Mill and Elevator machinery of all kinds, Engines, rollers, Pulleys, Shafting, etc. (Mr. 89.)

The Gutta Percha and Rubber Mfg. Co., 109-161 Lake St., Chicago, Ill., Belting and Rubber Goods. (Mr. 89.)

The Avery Elevator Bucket Co., sole owners and manufacturers of Seamless Steel Elevator Buckets, Wason, Lake and Dart Sts., Cleveland, O. (Mr. 89.)

Richmond Mfg. Co., Lockport, N. Y., manufacturers of Grain Cleaning Machinery, Bran Dusters, etc. (Mr. 89.)

N. Y. Belting and Packing Co., N. Y. Leather Belting Co., Goulds & Austin, Agents, 167 and 169 Lake Street, Chicago. (Apr. 89.)

Weiler Bros., 94 Wendell St., Chicago, Mfrs. Mill and Elevator specialties, Cups, Boots, Spouts, Steel Conveyors, Power Grain Shovels; dealers in Cotton and Rubber Belting, etc. (Apr. 89.)

The Shields & Brown Co., 240 and 242 Randolph St., Chicago, and 141 Worth St., New York Mfrs. of Sectional Insulated Air Coverings for steam, gas, and water pipe, etc. (May 89.)

W. G. Avery Mfg. Co., 10 Vincent St., Cleveland, O., Specialties: Avery Lever Belt Pumps, Avery Seamless Elevator Buckets, Belting, Elevator Bolts, etc. (May 89.)

The H. J. Deal Specialty Co., Bucyrus, Ohio, Headquarters for Flour and Grain Testing Appliances, and Specialties for the Milling, Flour and Grain trades.

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E. Sanderson & Co., "Phoenix Mills," Milwaukee, Wis., U. S. A. Manufacturers and Exporters of choice spring wheat flour. Daily capacity 1600 barrels. (Apr. 89.)

Bernhard Stern, "Jupiter Mills," Milwaukee, Wis., Roller Mill, Hard wheat Patents, Principal brand, "Jupiter." (Apr. 89.)

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Russell, Andrews & Birkett Penn Yan, N. Y., Manufacturers of roller process Rye and Buckwheat flour. Absolute purity guaranteed. Write for prices. (Apr. 89.)

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1888-9 Edition, Issued March, 1888.

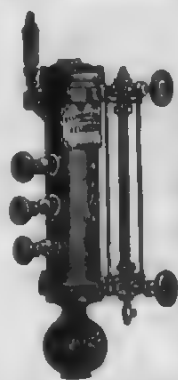
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W. K. Sherwood, Flour and Grain Commission, 18 South Commercial Street, St. Louis, Mo. (Apr. 89.)



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They obviate all damage from either too much or too little water, and cost but little more than the common outfit.

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(Short ads. inserted in this column for \$1 per insertion.)

FOR SALE. A steam roller mill, first-class in every respect, with daily capacity of 275 barrels. For full particulars address, **HUGH KELLY,** Perham, Minn.

FOR SALE. A good water-power roller mill of about 50 bbls. daily capacity. Address for full information, **UEHLING & BODDEN,** Afton, Wis.

FOR SALE. A steam and water-power 50 bbl. roller mill. Proprietor has other business. Go west for your health and buy a good business cheap. Address, **E. HAM & SON,** Latah, Wash.

FOR SALE. The "Central Mills," of 300 barrel capacity, situated in the thriving city of Atchison, Kas., with a good wheat crop, and the business fully established to go right ahead. Satisfactory reasons for selling. For further information address **WM. BOWMAN,** Atchison, Kas.

FOR SALE. One 100 barrel roller process Flour and Grist Mill, built by Nordyke & Marmon Co., in 1884, good as new and complete in every respect; situated on the great Kanawha river and the K. & O. R'y., in the center of the West Virginia coal region. Home market for the entire product. Will sell cheap. Terms easy. For full particulars address **J. G. W. TOMPKINS,** Cedar Grove, Kanawha county, W. Va.

FOR RENT. A water-power 5-run mill, with land, etc. A good chance for a live miller. For particulars address, **S. D. NICHOLS,** Panora, Iowa.

WANTED.

A situation in a flour mill, stone or roller. Eight years' experience. Recommendation furnished if desired. Address **JOHN STUBER,** P. O. Box 880, Colorado Springs, Colo.

[16]

SITUATION WANTED. A young man of 25 years, single, wishes to locate permanently, if he can find a suitable location. Prefer to take charge of a full roller mill, or a combined roller and stone mill, of from 50 to 150 barrels capacity. Good stone dresser, being thoroughly acquainted with the latest improvements. I can guarantee satisfaction. Any one in want of a good, sober, reliable man can address **J. P. WERNER,** 118 South Third street, La Crosse, Wis.

WANTED. A partner who will devote his time to the business, with some means, to rebuild a water power mill in Toledo, on the site of the Armada Mills (lately burned.) It is the best site in the city, and the best city in America for a flouring mill to grind either winter or hard spring wheat. Correspondence solicited. **F. N. QUALE,** TOLEDO, OHIO.

WANTED. Wanted a competent man to build a mill. Address **WARREN FOSTER,** Cheney, Kas.

[16]

Machinery For Sale

ONE PAIR 4-FT. MILLSTONES; new.

SEVEN PAIR 4-FT. MILLSTONES; used about three months.

ONE PAIR 9x18 CHILLED ROLLS; smooth.

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Not yet equaled by any form of Engine for

HIGH FUEL DUTY AND SIMPLICITY.

13 Sizes in Stock.

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Pittsburgh,	Westinghouse Bldg.,	& Co.
Chicago,	154, 156 Lake St.	
Philadelphia,	608 Chestnut St. E. R. Hoekle, Jr. & Co.	
St. Louis,	302, 304 Washington Av.	Fairbanks
Kansas City,	312 Union Avenue,	& Co.
Denver,	1111 Broadway Bldg.	
Omaha,	1619 Capital Avenue, T. C. Ayer.	
Pine Bluff, Ark.	Geo. H. Dille & Sons.	
Salt Lake City,	259 E. Main St.	Etah & Montano
Butte, Mont.	A. Granite St.	Machinery Co.
San Francisco,	31, 33 Fremont Street, Parks & Lacy Co.	
Portland, Or.	35, 35 N. Front St. Parks & Lacy Co.	
Charlotte, N. C.	C. 36 College St.	The R. A. Tompkins Co.
Atlanta, Ga.	45 S. Prior St.	
Dallas, Tex.	Kearney Imp. & Machine Co.	
Chattanooga, Tenn.	G. E. James & Co.	

(Translated from Allgemeine Muehlen Zeitung for THE UNITED STATES MILLER.)

COMPRESSED AIR AS A MOTIVE POWER.

Much time, labor and thought have been expended in producing or attempting to produce machines for small manufacturers. Engines run by water, gas and hot air have been constructed; the electricians are also at present very busily engaged in devising cheap electro-motors, but a new source of power is now proposed—the use of compressed cold air. In Birmingham (England) a strong company has been organized for the purpose of supplying people with compressed cold air motors at a reasonable rate. This company has secured a franchise for laying pipes in the streets, and will endeavor soon to put the scheme into practical use. There are many well-informed men, however, who doubt the success of the enterprise. We hope the doubters may be disappointed.

The company will by means of pipes lead the air into the shops and houses where it will be made to propel suitable engines. Compressed air has the property of expanding like steam, and can thus furnish power to do work in proportion to its density. In a central station, engines having a capacity of 8,000 horse-power are placed to compress the air with pumps specially constructed so that it will indicate a pressure of 45 pounds to the square inch, and is conducted by piping to the places desiring to use it. The company claim that ordinary steam engines now in place can be connected with the air supply pipes and successfully and economically run, dispensing entirely with the furnace, boiler, coal, dirt, smoke, etc. There will be no danger from explosions. The space heretofore occupied by boiler, coal storage, etc., can be otherwise utilized, and as the power is ready for use at any time, only requiring to be turned on when wanted and turned off when not wanted, no enigneer or fireman is required. The compressed air can be used to drive elevators in hotels or residences, sewing machines or electric light dynamos—in short, many of the innumerable things that can be done with an ordinary amount of power. If the scheme works as promised by the company, it will no doubt come into use in many cities.

THE EDWARD P. ALLIS ESTATE.

Wm. W. Allis and Charles Allis, temporary administrators of the estate of the late Edward P. Allis, filed an inventory of the estate in the Probate court April 26. No values are placed on any of the property except as regards the machinery, material, bills receivable, book accounts and cash on hand April 2, which are as follows:

Articles manufactured, partly manufactured and raw material, about.....	\$500,000 00
Bills receivable, as per books.....	170,480 71
Book accounts.....	512,585 42
Cash on hand as per cash book.....	24,568 04
The Western Worsted mills.....	4,794 12

The real estate comprises a long list of properties scattered from Michigan to California. It begins with the Reliance Iron Works, blocks 33, 116, 115, and lots 1, 2, 3, 4, 9, 10 and 12 in block 109, on the south side of the city; the Bay State Iron works, lots 3 to 10, inclusive, on the south side; the south side foundry with seven and one-fourth acres of land which it occupies in the Twelfth ward. All machinery and implements used in these establishments are included in mention of them.

The other city property enumerated embraces thirty-two lots in blocks 2 and 3 in the Twelfth ward; lots 7 to 10 in block 67, known as dock lots, on the south side; lots 1, 2, 3, 4, 13 and 14 in block 107 in the Seventh ward—the homestead property; part of lots 5 and 7 and all of lot 8 in block 233 in the First ward, and the Daisy Roller mills, on the south side.

The foreign realty includes the North Dakota Roller mills, at Hillsboro, North Dakota; Isinour's Stock farm, at Isinour's, Minn.; real estate at Aurora, Neb.;

flour mill at Sanborn, Ia.; real estate at Indianola, Ia.; flour mill, interest in gas and milling property, and real estate at Westfield, Ia.; four and one-half acres in Big Stone City, Dak.; 160 acres in Barnes county, Dak.; 160 acres in Holt county, Neb.; 360 acres in Kidder county, Dak.; what is known as Chicago Park, in Los Angeles county, Cal.; two-thirds interest in 68,000 acres in Michigan; property at Lakeside, Wis.; Reliance Land and Mining Company, and Arizona mining claims, in Arizona.

TRADE NOTES.

No. 2 of "The Kind of Mills we Build" has been issued by Edw. P. Allis & Co. of Milwaukee. It shows graphically what the Reliance Works have done and can do.

It is said that the "EUREKA" OAT CLIPPER, manufactured by S. Howes of Silver Creek, N. Y., has been in great demand by oat dealers throughout the West.

MR. G. W. AVERY, president of The W. G. Avery Mfg. Co., Cleveland, O., has just received notice from the commissioner of patents for Canada, that a Canadian patent was issued to him April 2, '89, covering elevator buckets both welded, braised and fused.

MESSRS. STOUT, MILLS & TEMPLE, Dayton, O., have just issued their Water Wheel book for 1889, which is one of the finest wheel books we have seen of late years. The book contains 120 pages, is handsomely printed and beautifully illustrated. Any water wheel user desiring it will be sent a copy on application.

THE Stilwell & Bierce Mfg. Co., the well-known milling and hydraulic engineers of Dayton, O., have recently written as follows to the Avery Stamping Co., of Cleveland: "We take pleasure in expressing to you our high opinion of the merits of your seamless elevator buckets. They give satisfaction, both to us and our customers."

COL. C. A. WINN, the well-known milling engineer, has become associated with and financially interested in the J. B. Allfree Co., of Indianapolis, Ind. This firm is making rapid strides to prosperity and we consider the acquisition of Col. Winn to their present staff an important one. He has built several of the largest mills in this country and the success those mills have met with is unprecedented. We wish the Col. and his firm the best of success.

The Milwaukee Bag Co., dealers in flour and grain sacks of all descriptions, printed or plain, found their establishment on West Water street altogether too small for their rapidly growing business and have purchased and now occupy a large substantial brick structure at No. 238 East Water Street, Milwaukee. We take pleasure in commending this house to the trade and feel assured that they will fully please any and all of their patrons. Their printing department is fully up to the modern demand for good and tastily designed work.

We are pleased to note that Messrs. Huntley, Cranson & Hammond of Silver Creek, N. Y., have established a Western agency at No. 66 South Canal street, Chicago, Ill., of which Mr. B. F. Ryer is manager. Mr. Ryer is personally known to thousands of mill owners in this country, especially in the West and South, and under his experienced management we predict that the firm will rapidly extend its already very large business. Among the specialties manufactured by Messrs. Huntley, Cranson & Hammond are the following: Cranson's wheat scourer and polisher, Cranson's buckwheat scourer and polisher (with magnetic attachments), Monitor dustless receiving and elevator separator, Monitor dustless milling separator, Diamond corn sheller, Roller buckwheat shucker. They also make a specialty of selling EXCELSIOR bolting cloth.

MILWAUKEE ITEMS.

HON. HENRY SMITH, millwright, is preparing plans for a malt kiln for A. L. Zinn, Milwaukee, Wis.

IMPROVEMENTS of a substantial nature have been made in the "Eagle," "Daisy" and "Duluth" mills during the past month.

MRS. C. E. BIRGE, wife of the well-known Milwaukee millwright, died March 23. She had been in poor health for some time.

MR. J. FLETCHER, a prominent London, flour broker, spent a few days in Milwaukee recently. He will visit all the principal flour producing points.

At the recent election of officers of the Chamber of Commerce Mr. Oscar Mohr was chosen president and Messrs. E. P. Bacon and John Foley first and second vice presidents.

WILLIAM MALONE met with a fatal accident while at work in E. P. Allis & Co.'s works March 23. He was highly spoken of by his associates. He was buried with military honors by the Sheridan Guard, of which he was formerly lieutenant.

CARLTON HOLLAND, the retiring grain inspector of the Chamber of Commerce, has held the office for about thirty years, having been elected in the fall of 1858, when the present organization was made. During his term of office Mr. Holland has seen Milwaukee occupy the position of being the greatest primary wheat market in the world.

A ROTARY engine invented by J. M. Farmer, a Stevens Point, Wis., mechanic, has been on exhibition at the machine shop of Pauling & Harnishfeger, Milwaukee. It is claimed that an eight horse-power of this pattern can be manufactured for \$20. Henry B. Munson, W. A. Meyer, O. A. Finck and John Decker of this city are organizing a stock company to manufacture the new engine.

ARCHITECT FRED WOLFE, of Chicago, is drawing plans of a refrigerating and ice machine building for the Joseph Schlitz Brewing Company, Milwaukee. The first named building will be six stories in height, 79x170 feet, of Milwaukee pressed brick, stone, and iron, with tin roof, and the latter three stories, 25x65, of the same material, in which Mr. Wolf will put one of the ice machines of his own manufacture. The cost will be about \$70,000.

WE called on the Prinz & Rau Mfg. Co., recently and were gratified to find their works busy in all departments. It appears that there is a brisk demand (notwithstanding the dull times in milling circles) for the "Iron Prince" Smutter. Wherever millers have introduced it, they express themselves well pleased. Brewers and malsters have taken an especial fancy for the barley machine made for their use and orders are coming from many places.

A PARTY of South Americans, consisting of Pablo Insentli, Luis Infante Cerda, Pastor Fernandez Cencha and Jose Luis Vial Carralli, of Chili, and Dominigo Fernandez Concha, of Santa Rita, arrived in the city, accompanied by Mr. J. F. Fowler, of New York. They visited a number of manufacturing institutions in the city and were treated with the utmost courtesy. Some of the party were especially interested in flour milling machinery.

HUGH L. JOHNSTON, senior member of the firm of Johnston Bros., proprietors of the large steam bakery at 270 to 274 Broadway, died March 24, at his residence, 142 Thirteenth Street. Mr. Johnston was 45 years of age. He was a native of Buford, South Carolina, and came to this city in 1847, with his father, Alexander H. Johnston, who in that year established the bakery business which his sons have since developed. Hugh L. Johnston and his brother, Robert A. Johnston, succeeded to the business on the death of their father, some twenty-two years ago. The deceased was a progressive and successful business man.

American Steam Gauge Co.,

—SOLE MANUFACTURERS—

Bourdon Steam Gauges,

WITH LANE'S IMPROVEMENT.



American Pop Safety Valves,

For Locomotive, Stationary and Portable Boilers, and Instruments incidental to the use of Steam. Send for Price List I.

36 Chardon St., BOSTON, MASS.

Send for Catalogue K.

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Lime Extracting

HEATER

—AND—

FILTER COMBINED

Is the only Lime Extracting Heater that will

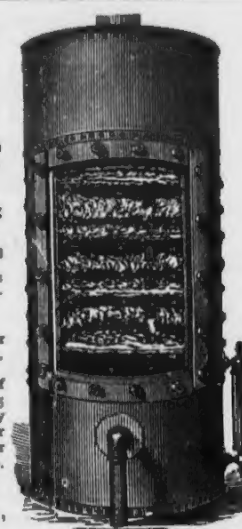
Prevent Scale in Steam Boilers

Removing all impurities from the water before it enters the boiler.

Thoroughly tested. Over 3,000 of them in daily use.

This cut is a facsimile of the appearance of a No. 5 Heater at work on ordinary lime water when the Heater had been running two weeks.

Illustrated Catalogues. Stilwell & Bierce Mfg. Co., DAYTON, OHIO.



JOHN C. HIGGINS & SON.

Manufacturers and Dressers of

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General Manager. Gen'l Pass. & Tkt. Agt.

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Champion, Republic,	*1:35 A. M.	*3:20 A. M.
Iron Mountain, Menominee,	*1:35 A. M.	*3:20 A. M.
Marinette, Green Bay,	3:10 P. M.	3:55 P. M.
Depere,		
Green Bay, Depere, Appleton, Menasha, Neenah,	*7:35 A. M.	3:55 P. M.
	7:55 A. M.	10:20 A. M.
	3:10 P. M.	3:55 P. M.

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Out of the Sea. By CLARA AUGUSTA.
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Publisher of the "United States Miller," Milwaukee, Wis.

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Publisher UNITED STATES MILLER, Milwaukee, Wis.

1889.

Send the UNITED STATES MILLER for one year and 50 Novels, post paid, for which find enclosed One Dollar.

Name.....

Post Office.....

County.....

State.....

I would be pleased also to have you mention any particulars about your mill or elevator, power, system, etc., and the name of Head Miller, or any item of news of interest to the trade.

AN INTERNATIONAL CONGRESS OF MILLERS
TO BE HELD AT PARIS, FRANCE, AUG.
20, 21 and 22, 1889.

The following correspondence received just as we are going to press explains itself.

National Association and Syndicate of the Millers of France.

PARIS, April 18, 1889.

To Mr. C. H. Seybt, Pres't of the National Association of American Millers:

Sir and dear brother Miller:—At a meeting on yesterday, the 17th of April, our Board set Tuesday the 20th, Wednesday the 21st and Thursday the 22nd of August for the holding of our annual meeting and it was decided that on account of the Universal Exposition it should take the form of an International Congress of Millers.

We therefore inform you of this resolution and request you to honor us with your official participation to said Congress, begging you to take the initiative of forming (getting up) to that effect, a delegation of the American millers.

The National Association of English and Irish millers have already pledged their full and entire co-operation. We should therefore be happy to see your Country also represented at this brotherly feast of labor.

Believing also that your colleagues, upon your advice, will unite in your favorable proposition, and that through your kind services we shall be able to behold for the first time, representatives of our dear industry from all the principal countries of the world, assembled together at a solemn occasion, that can have no other result but that of tightening our bonds of concord and union to the benefit and prosperity of our respective countries.

As our Organization has to procure special meeting halls for each of the represented nations, we should be infinitely obliged to you to let us know as early as possible, the welcome that you and your colleagues may reserve to our friendly invitation.

In the meantime please accept, dear sir and brother, the expression of our sentiments of cordial and most sincere brotherhood.

For the National Association
Syndicate of the Millers of France,
A. DUBRAY, President.

HIGHLAND, Illinois, April 30, 1889.

Monsieur A. Dubray, President, Paris:

Sir and dear brother:—Your very kind letter of April 18th, sending an invitation to the Millers National Association of America to participate in an International Congress of millers, to be held on the 20th, 21st and 22nd day of August this year at Paris in connection with the Universal Exposition, has been received.

I have requested the Secretary of our Association to publish a translation of your esteemed letter in the milling Journals of the United States, and in this way the many thousand millers of our country will in the course of a few days have the pleasure to read your kind communication.

At the next meeting of the Executive committee of our Association official action will be taken in response to your letter, of which you will be notified at the earliest possible moment.

Meanwhile permit me to express the thanks of the milling fraternity of this country for the honor bestowed upon us by our esteemed conferees in France, a country which has in so many ways shown a generous love for our nation.

Please accept, dear sir and brother, the expression of my highest regard.

Signed,
C. H. SEYBT, President,
Millers National Association, U. S. A.

THE C. I., St. L. & C. Ry. (Kankakee line) is the best route to Florida. Close connections in Central Union Depot, Cincinnati with through express trains of C. N. O. & T. P. Ry. Queen & Crescent Route.

EDW. P. ALLIS & Co., through Mr. W. Gray, secured the contract April 12th for building the Duluth Imperial Mill company's flour mill at Duluth, Minn. This mill, when completed, is to have a daily capacity of 6,000 barrels and will be one of the largest mills in the world. It is the intention of the Mill Company to build only one-quarter of the mill this year and one-quarter each succeeding year until completed. This mill will be built under the personal supervision of Mr. Gray and, when completed, promises to be one of the finest mills in the world.

THE J. B. Allfree Co., Indianapolis, Ind., report the following contracts: R. Marquis, Oakford, Ind., a 40-bbl. short system mill, consisting of Key-stone rolls, Success bolters, bran-duster and Allfree sieve scalper; Butler & Taylor, Stanberry, Mo., a 50-bbl. full-roller short-system mill and corn-meal plant, consisting of Key-stone corn and wheat roller mills, and other machinery of the Allfree manufacture, including an Allfree Automatic engine; R. L. Socarce, Moscow, Ky., a 70-bbl. full-roller, short-system mill, including Keystone rolls, 4-high corn mill and other Allfree machinery.

CAOUTCHOUC BELTING.

The employment of so-called rubber belting for machinery, or rather belting composed of cloth and caoutchouc, seems to be rapidly gaining ground in most industrial countries, since it appears that belting made of such materials presents greater homogeneity and uniformity of thickness than can be obtained with leather. Moreover, the rubber belting adheres more closely to the pulley and it is not liable to stretch so much under severe tension, for instance under a strain of 2.52 kilos. per square millimetre it would give no more than a leather belt that has to stand a strain of only 1.66 kilos. Rubber belting can also be made of dimensions that it would be impossible to obtain with leather, and its manufacture has been brought to such perfection in America that nine-fold belts have been produced in that country 52 inches wide, 298 feet long, and weighing about 4,000 lbs. It is even stated that a monster rubber belt, 2,700 feet long, is employed in Jersey City for conveying grain from the vessels to the railways. Another advantage presented by these belts is that they have comparatively few joints. A rubber belt, for instance, of fully 60 feet in length can be manufactured with only one joint, while there would not be less than six seams in a leather belt of the same length, which would naturally be a source of weakness.—*Foreign Exchange.*

OUR readers will confer a favor by writing to us giving us any item of news such as new mills, elevators, etc., or improvements in the same, or giving information of a practical nature of general interest to the trade.

LUBRICATING OILS.

It is a mystery that men who are called upon to use lubricating oils—that is to do the work of using them, can never understand why, when an oil has been found just right for the purpose for which it is intended, a change is made by those who control the purchasing power. Valuable machinery is oftentimes damaged by such changes. The highest priced oil is not always the best, but the best of common oils is generally the cheapest.

When a large quantity of machinery is operated, the quality of the oil used often has an important bearing on the amount of coal burned, and sometimes the rapid destruction of delicate machinery more than overbalances the cost of both coal and oil.

The reason, sometimes why a change of oil is made when the quality is in every way satisfactory, is that the new "oil man" has an insinuating way with him that captivates the purchaser, and sometimes, alas! the purchasing agent is captured by other means.

There are reputable dealers in oils who, a quality having by experiment been found that is best for the purpose, undertake to furnish it of a standard grade as long as desired. Lubricating oils are, at the present day, very commonly a compound of animal and mineral oils, and vary quite widely as compounded for different purposes. Many dealers have been to considerable trouble and expense in getting at the best mixtures, and can frequently give good advice when the purpose for which the oil is to be used is known to them.

THE advertisement of Messrs. Edw. P. Allis & Co. on another page is an index of the state of the mill building and furnishing trade in Milwaukee and the intelligent reader will see at a glance that it is good.

LATEST advices indicate, that the present rupture in the oat-meal trust is liable very soon to result in a reorganization, which will be more binding than ever.

THE Sanger & Rockwell planing mill was damaged by fire April 10th to the extent of about \$30,000. Insured. A great number of firemen were seriously prostrated by the dense smoke.

CONDEMNATION OF COMPETITORS IS THE MEASURE OF SUCCESS.

I CHALLENGE the wheat heater concern advertising their heater as "replacing the Welch" to publish the terms on which the Welch Wheat Heaters are replaced. I could replace any other make of heater by allowing a big price for it and selling mine low, which is equal to paying a bonus.

The "Welch" is fully guaranteed, sold on its merits and used more than any heater on the market.

823 SECOND ST.,
ST. LOUIS, MISSOURI.

A. B. BOWMAN.

GANZ & CO.
Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for the United States of America. For full particulars address as above.

[Mention this paper when you write to us.]

EVERYBODY'S PAINT BOOK.

A new work on INDOOR and OUT-DOOR painting which is designed to teach people how to DO THEIR OWN PAINTING and save the expense of a professional painter. The most practical and valuable work of the kind ever issued. Full directions are given for mixing paints for ALL PURPOSES. Tells all about PAINT, STAINING, VARNISHING, POLISHING, as well as how to RENO-VATE FURNITURE, so that it will look as good as new. Tells all about HOUSE-CLEANING with paint and kalsomine. Full directions are given for making the beautiful SPATTER-WORK pictures in which the ladies are so much interested. Tells how to paint OUT-BUILDINGS, ROOFS, FARM WAGONS, FARM IMPLEMENTS and CARRIAGES as well as how to paint a PIANO or ORGAN how to imitate GROUND GLASS or make paint for BLACKBOARDS; GRADING in oak and black walnut, painting in imitation of EBONY, MAHOGANY and ROSE-WOOD stain, GILDING, BRONZING and SILVERING. Kinds of paint and brushes. Will SAVE ITS COST in a short time. Send by mail on receipt of price One Dollar.



Address, UNITED STATES MILLER, Milwaukee, Wis.

A WATER-TANK BURNED IT, and this is the way it was. The tank was on the top of the building, and the pipes led from it in every direction. The water supply was abundant, and the arrangement was regarded as a perfect protection against fire, but the sequel proved that the very thing we relied on for safety, was the one that worked the destruction of the mill! During a thunder shower one day, the lightning struck the roof and set it on fire, the rain would have put it out had it not been for the shelter afforded by the large tank under which the fire worked until that part of the roof was burned and the wooden supports of the tank were eaten away and the iron ones bent, when the tank fell with a crash. It weighed, with its load of water, a good many tons, and when it struck the upper floor it went through as if it had encountered a sheet of paper, and it did not stop till it reached the cellar, carrying with it and scattering in every direction portions of the burning roof which quickly kindled each story of the building, and the whole place was soon in flames. A total destruction of the mill followed, and we had the mortification of knowing that not only did our scheme of protection not protect, but it was the direct cause of the loss.

WE will send the UNITED STATES MILLER and American Miller to any address in the United States or Canada for one year for \$1.50, or both papers and "50 novel" premiums for \$1.75.

HOW DETECT POTATO FLOUR IN WHEAT FLOUR.—Adulteration of flour with potato flour may be detected by means of acids. Take a spoonful and pour upon it a little nitric acid; if the flour be of wheat it will be changed to an orange yellow; if wholly of potato flour the color would not be altered but the flour formed into a tenacious jelly; if, therefore, the flour be adulterated with potato flour, it will not be difficult to decide. Again, take a spoonful of the flour and pour upon it a little muriatic acid; if the flour be of pure wheat, it will be changed to a deep violet color, without odor; but if potato flour be mixed in it, it will then have an odor like that of rushes.

THE publisher of the UNITED STATES MILLER is desirous of having the names and addresses of Head Millers, Millwrights and Head Engineers in all mills having a capacity of 150 bbls. per day or more.

AMONG the orders for NEW ERA SCALPERS received by the Superlative Middlings Purifier Co. of Milwaukee we note the following: Barry Milling Co., Barry, Ills.; Shakopee Mill Co., Shakopee, Minn.; Bedford Roller Mill Co., Bedford, Ind.; 16 machines for Ogilvie Milling Co., Winnipeg, Man.; The Dearborn Mill Co. order a GILBERT REEL; also Scalpers for Heilman Roller Mills, Evansville, Ind. and C. H. Guenther & Co., San Antonio, Tex.

WILLIAM Listman's 1000 barrel roller flour mill with grain elevator attached was completely destroyed by fire May 1. There was but little wheat in the elevator and only about 200 bbls. of flour in the mill. Loss \$125,000. Insurance \$80,000. A large amount of other valuable property was also burned.

EXCELSIOR BOLTING CLOTH.
 THE BEST CLOTH IMPORTED.
 Send for Our Prices and Estimates on all kinds of Reels.

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"Gold Seal" Rubber Belting.
 PRICE LIST SENT ON APPLICATION.

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THE J. B. ALLFREE COMPANY,
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 manufacture this superior line
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MACHINERY

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THE "SUCCESS" BOLTER.

Also
AUTOMATIC ENGINES,
SIEVE SCALPERS,
 Corn Pearlers and Corn Cleaners,
 Centrifugal Reels.
 Address for prices, etc.,
THE J. B. ALLFREE COMPANY,
 Indianapolis, Indiana,
 Mill Builders and Mill Furnishers.

CORN MILL. **FLOUR PACKER.**

ROBERT POOLE & SON CO.
Leffel Turbine Water Wheel
 Made of best material and in best style of workmanship.
Machine Molded Mill Gearing
 From 1 to 30 feet diameter, of any desired face or pitch, molded by our own SPECIAL MACHINERY. Shafting, Pulleys, and Hangers, of the latest and most improved designs.
Mixers and General Outfit for Fertilizer Works.
 Shipping Facilities the Best in all Directions.

ROBERT POOLE & SON CO., BALTIMORE, Md.
 N. B.—Special attention given to Heavy Gearing for Pulp and Paper Mills.
 [Mention this paper when you write to us.]

W. M. PLANKINTON, President.
 FREDERICK D. DAY, Treasurer.

Milwaukee Brass and Copper Works
 MILWAUKEE, WIS.

BABBITT METALS,
 (Standard and Special Mixtures).
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